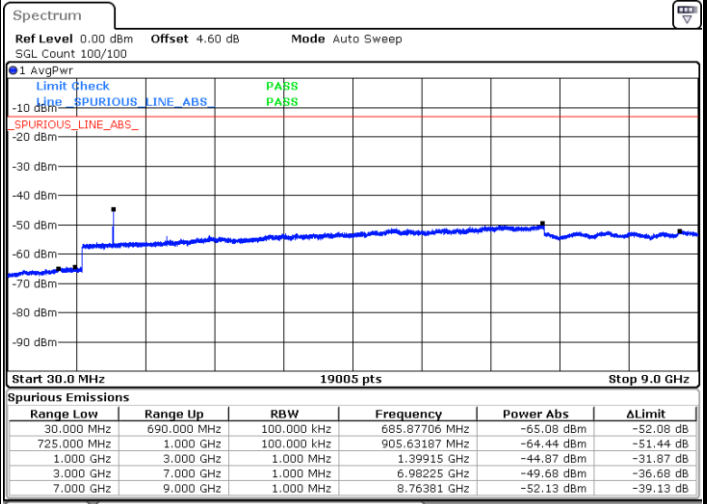
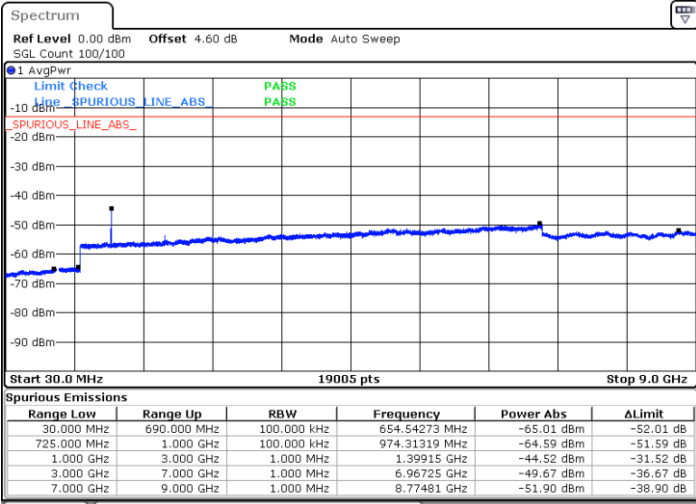




LTE Band 12 / 5MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM

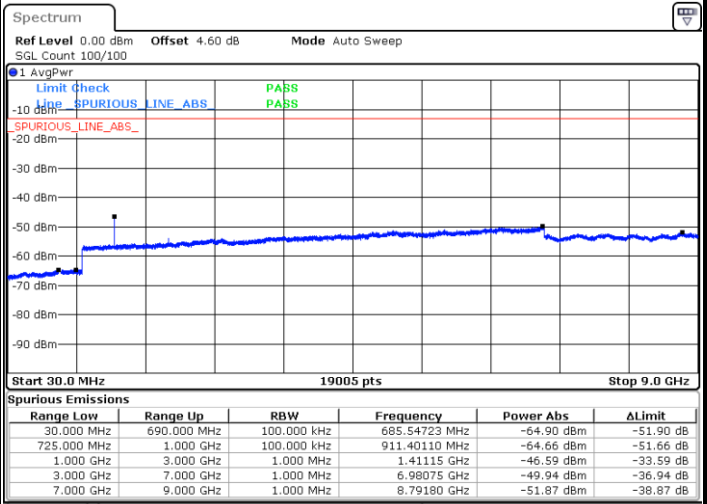
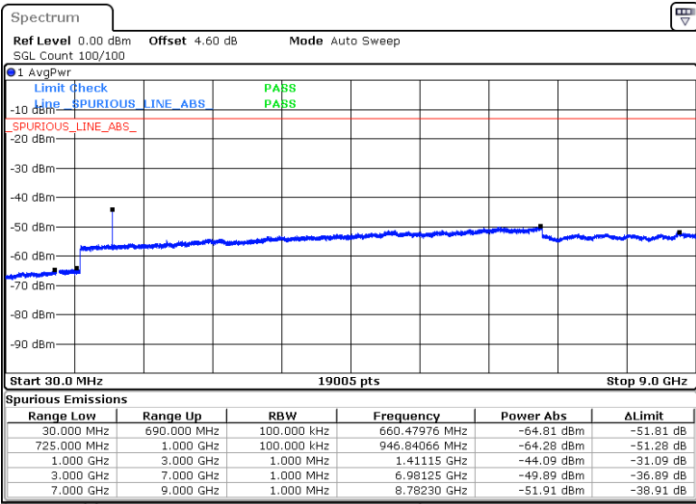


Date: 12 AUG.2020 05:34:29

Date: 12 AUG.2020 05:35:24

Middle Channel / QPSK

Middle Channel / 16QAM



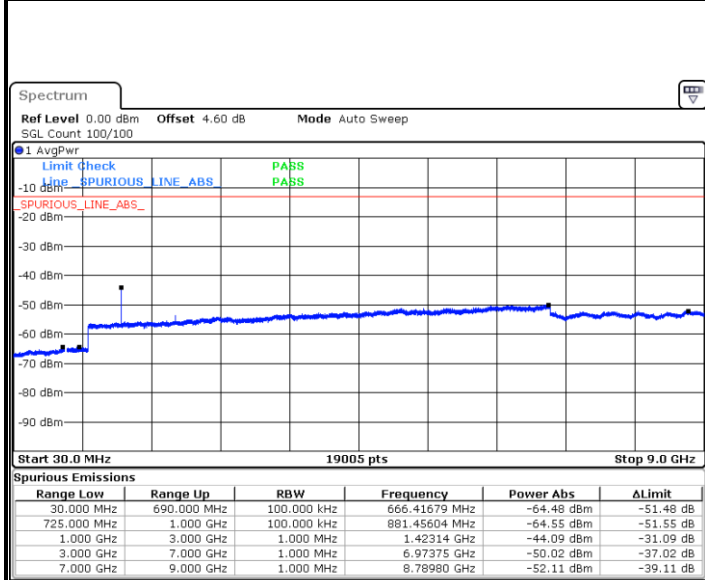
Date: 12 AUG.2020 05:37:13

Date: 12 AUG.2020 05:36:19



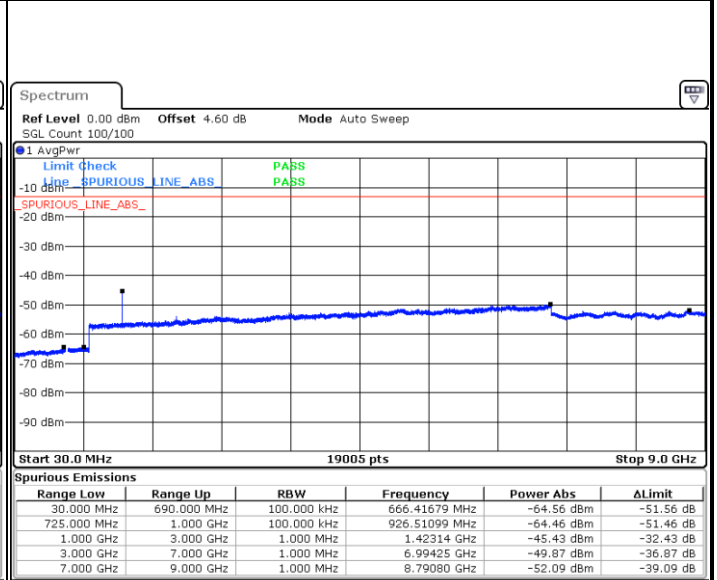
LTE Band 12 / 5MHz

Highest Channel / QPSK



Date: 12 AUG 2020 05:38:08

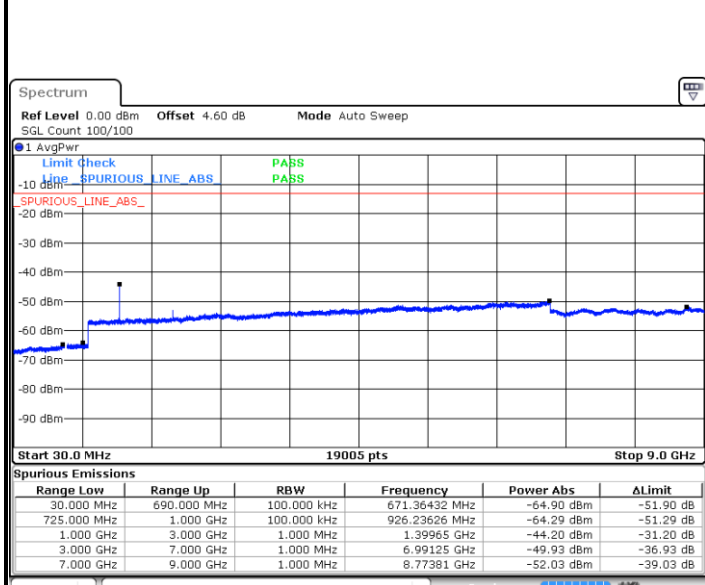
Highest Channel / 16QAM



Date: 12 AUG 2020 05:39:02

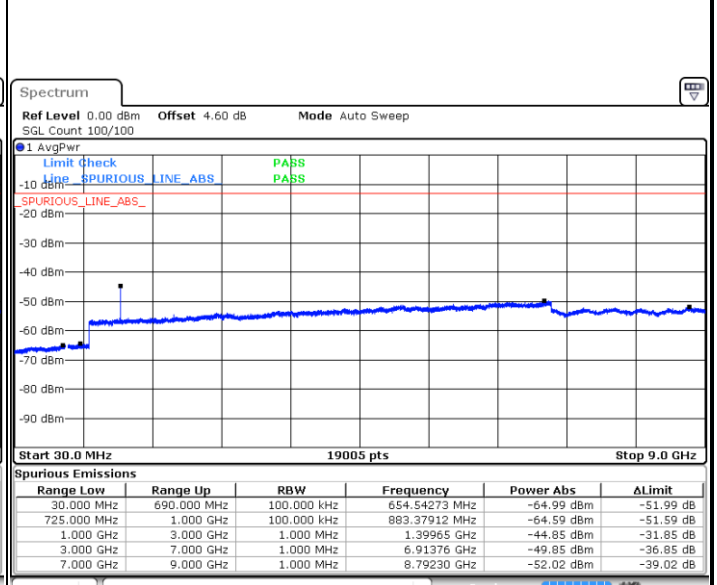
LTE Band 12 / 10MHz

Lowest Channel / QPSK



Date: 12 AUG 2020 05:50:59

Lowest Channel / 16QAM

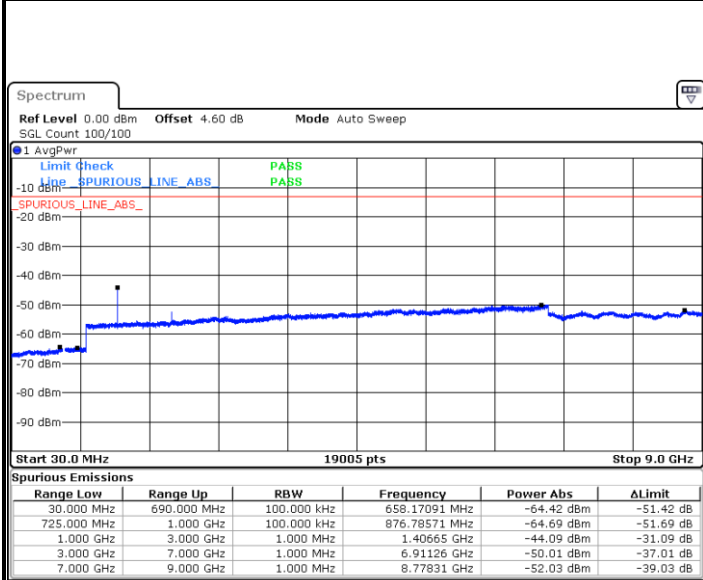


Date: 12 AUG 2020 05:51:53



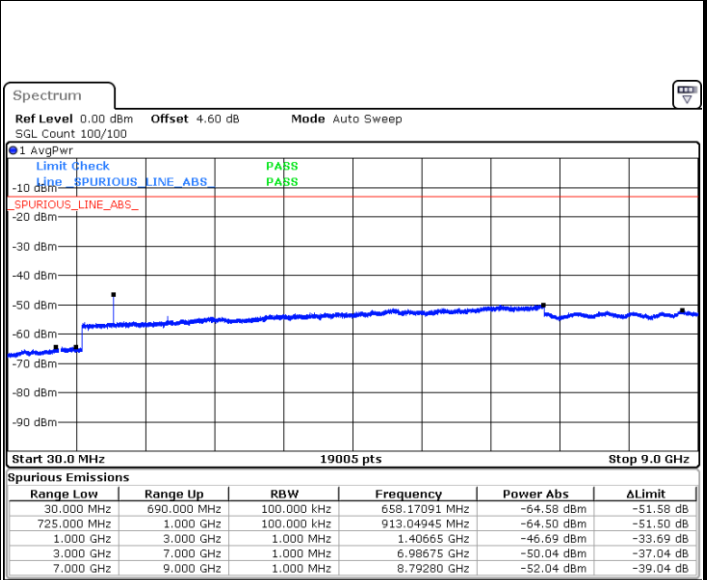
LTE Band 12 / 10MHz

Middle Channel / QPSK



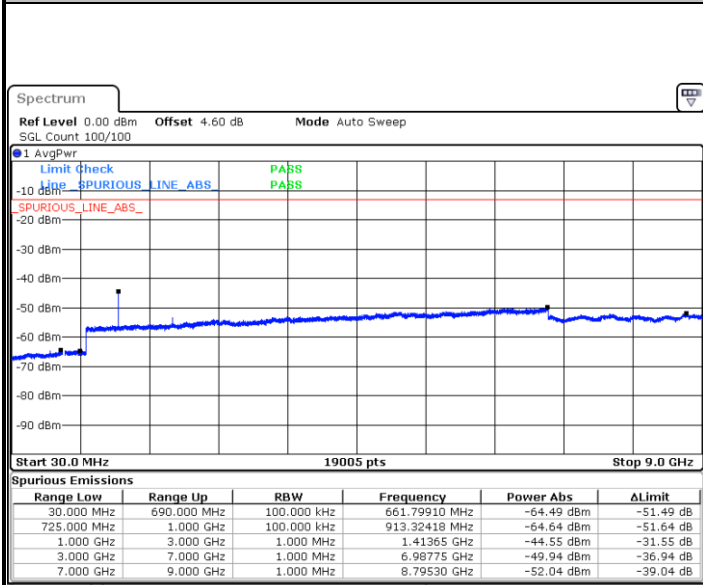
Date: 12 AUG.2020 05:53:43

Middle Channel / 16QAM



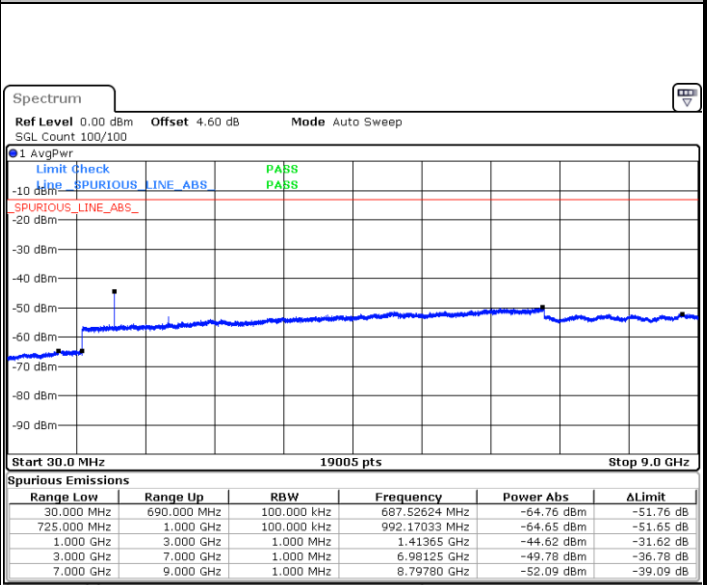
Date: 12 AUG.2020 05:52:48

Highest Channel / QPSK



Date: 12 AUG.2020 05:54:37

Highest Channel / 16QAM



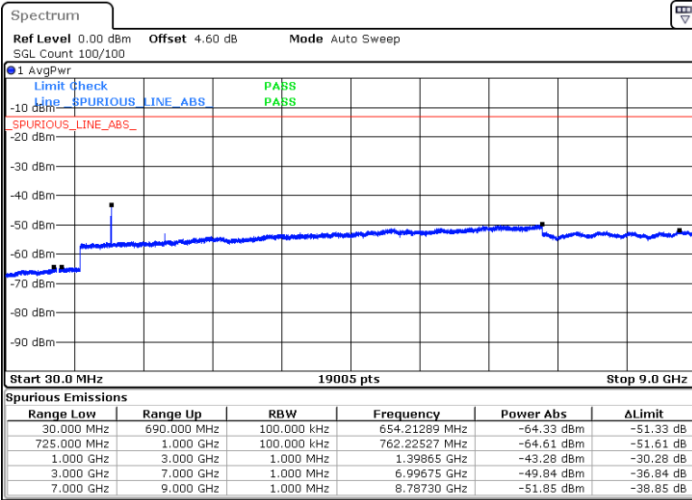
Date: 12 AUG.2020 05:55:32



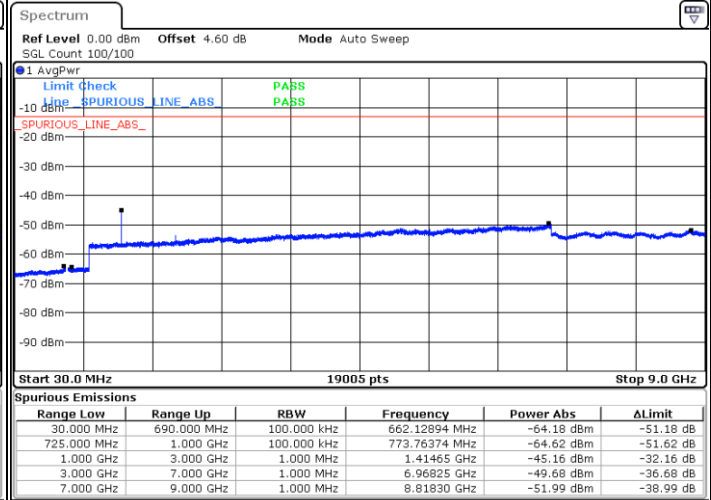
LTE Band 12 / 1.4MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

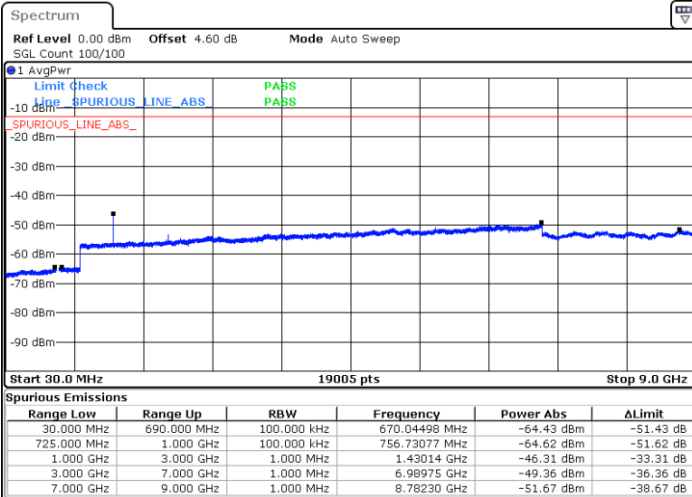


Date: 12 AUG.2020 04:26:57



Date: 12 AUG.2020 04:27:52

Highest Channel / 64QAM

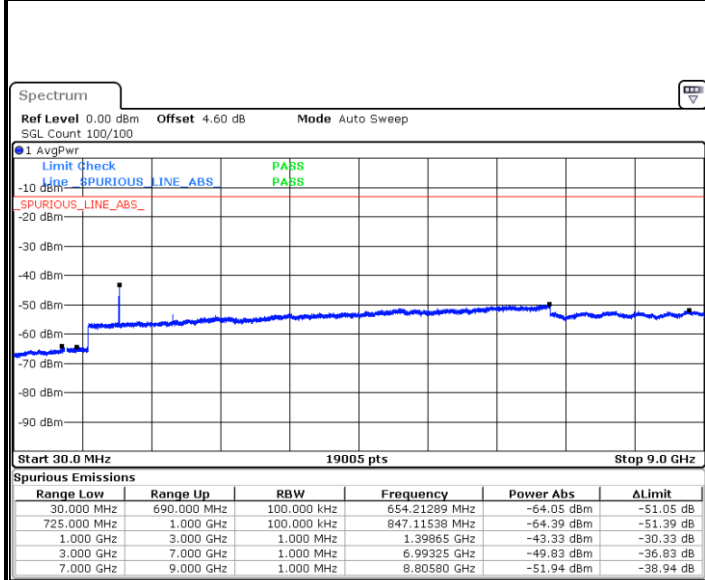


Date: 12 AUG.2020 04:28:47



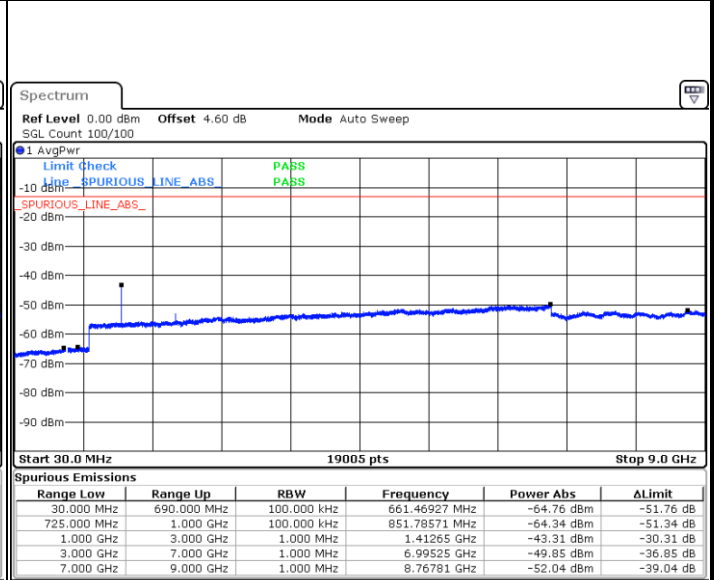
**LTE Band 12 / 3MHz**

**Lowest Channel / 64QAM**



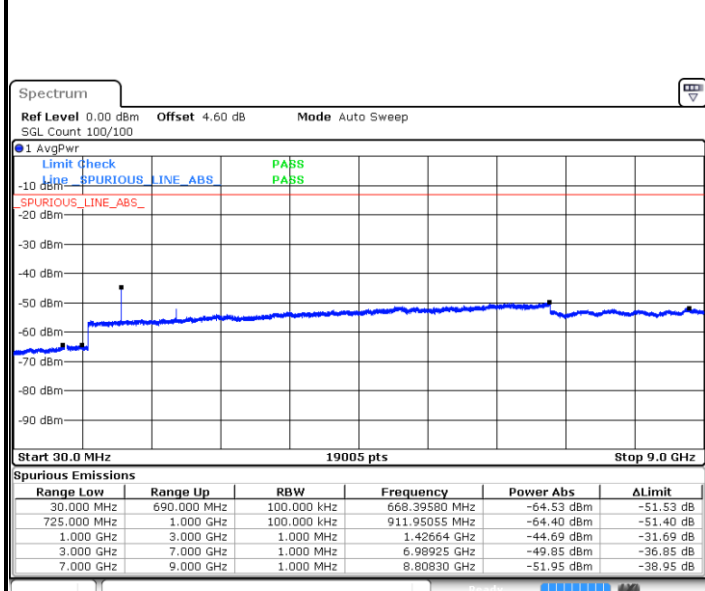
Date: 12 AUG.2020 04:29:42

**Middle Channel / 64QAM**



Date: 12 AUG.2020 04:30:36

**Highest Channel / 64QAM**

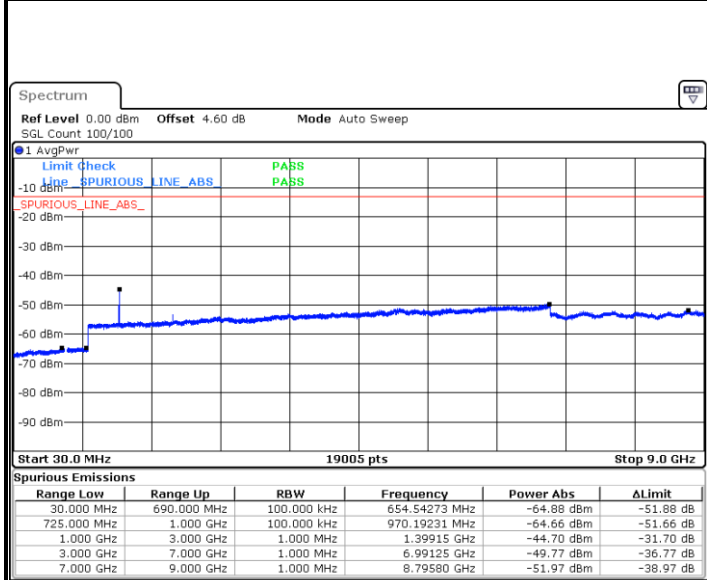


Date: 12 AUG.2020 04:31:31



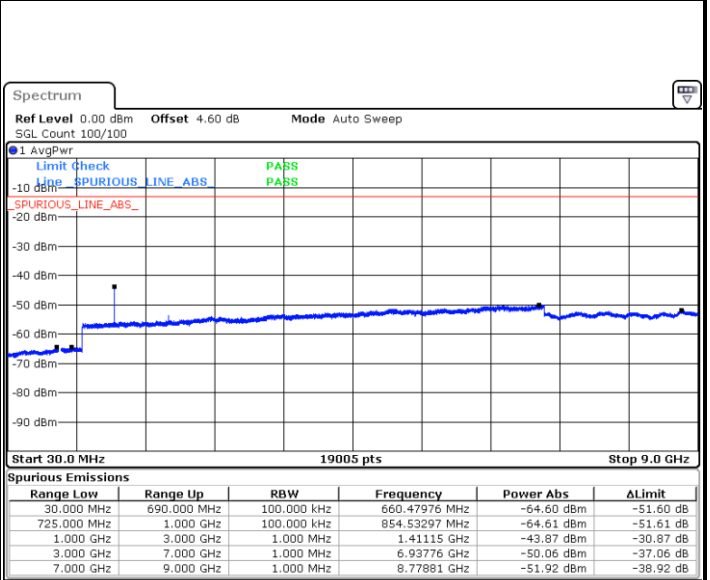
**LTE Band 12 / 5MHz**

**Lowest Channel / 64QAM**



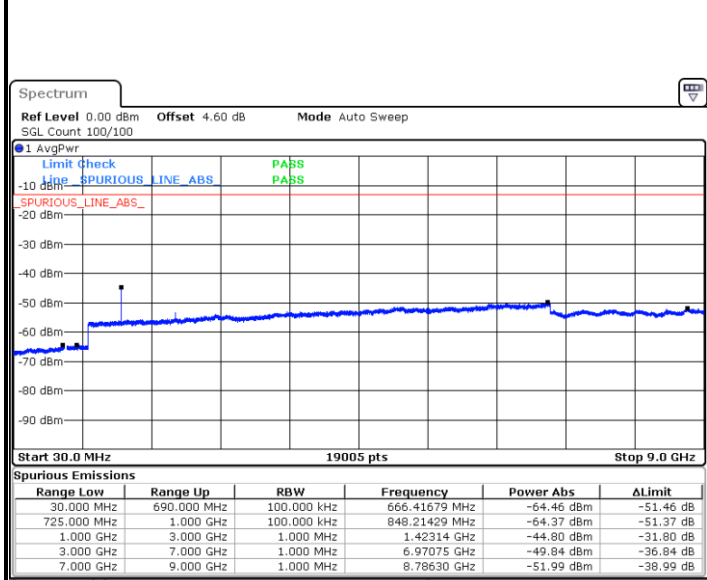
Date: 12 AUG.2020 04:43:27

**Middle Channel / 64QAM**



Date: 12.AUG.2020 04:44:22

**Highest Channel / 64QAM**



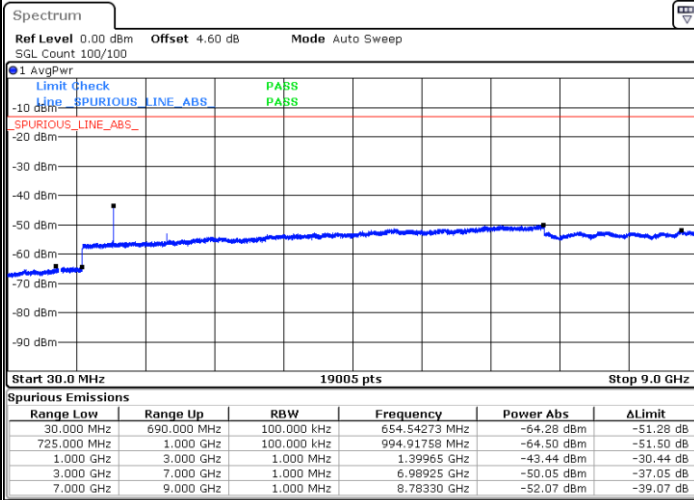
Date: 12 AUG.2020 04:45:16



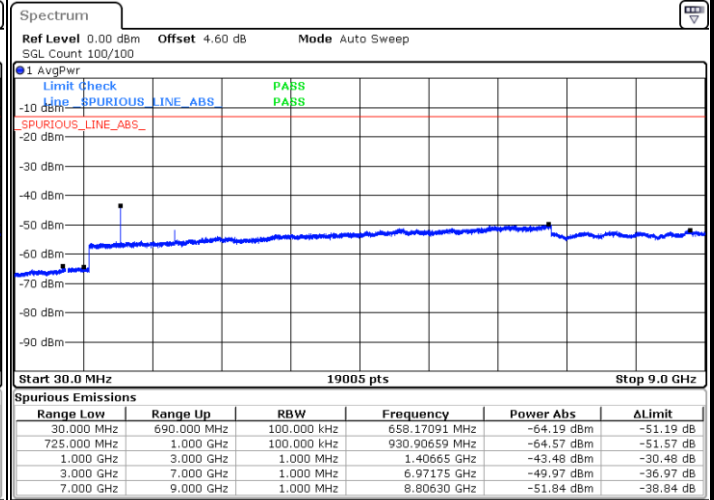
LTE Band 12 / 10MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

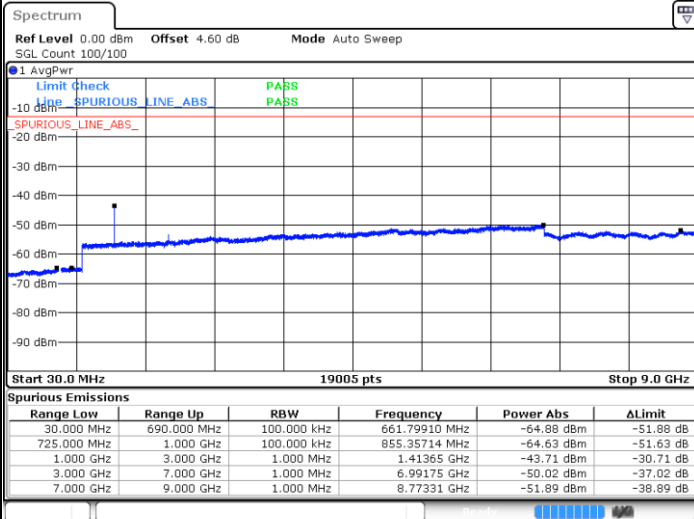


Date: 12 AUG.2020 04:46:11



Date: 12 AUG.2020 04:47:06

Highest Channel / 64QAM



Date: 12 AUG.2020 04:48:00



### Frequency Stability

Test Conditions		LTE Band 12 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0025	PASS
40	Normal Voltage	0.0023	
30	Normal Voltage	0.0013	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0012	
0	Normal Voltage	0.0047	
-10	Normal Voltage	0.0033	
-20	Normal Voltage	0.0009	
-30	Normal Voltage	0.0022	
20	Maximum Voltage	0.0031	
20	Normal Voltage	0.0025	
20	Battery End Point	0.0004	

**Note:**

1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.6 V. ; Maximum Voltage =4.4 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.





# LTE Band 13

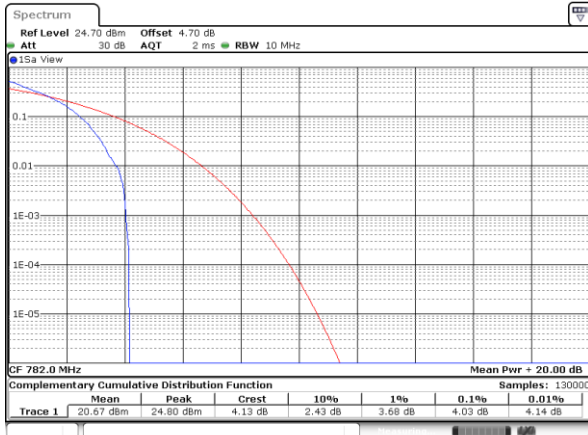
## Peak-to-Average Ratio

Mode	LTE Band 13 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	-	-	-	-	<b>PASS</b>
Middle CH	4.03	5.33	5.04	6.29	
Highest CH	-	-	-	-	
Mode	LTE Band 13 / 10MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	-	-	-	-	<b>PASS</b>
Middle CH	4.46	6.75	-	-	
Highest CH	-	-	-	-	



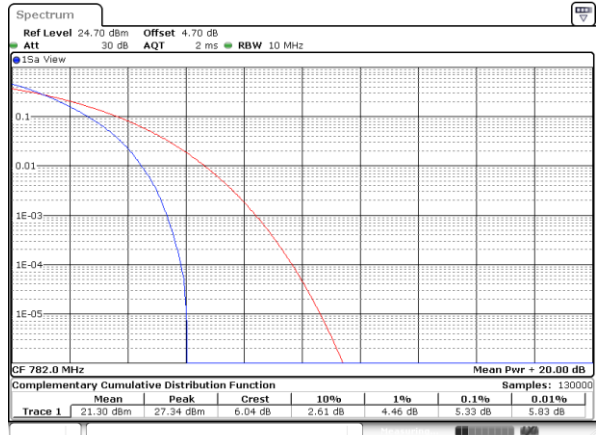
LTE Band 13 / 10MHz / QPSK

Middle Channel / 1RB



Date: 13 AUG 2020 10:37:25

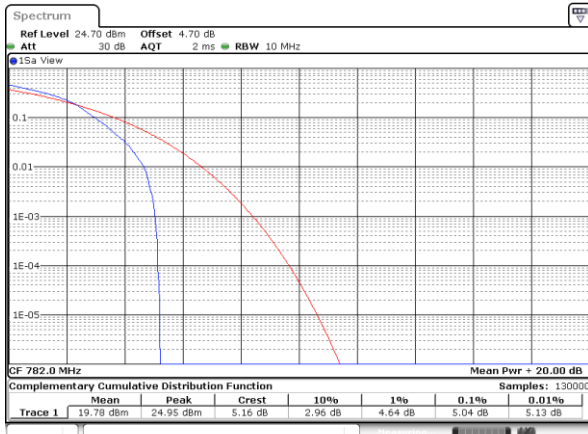
Middle Channel / Full RB



Date: 13 AUG 2020 10:37:44

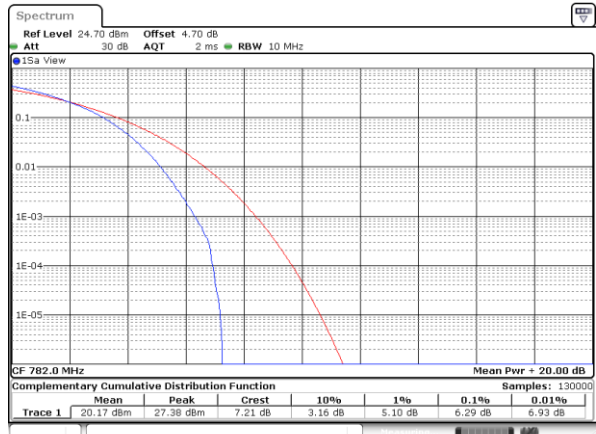
LTE Band 13 / 10MHz / 16QAM

Middle Channel / 1RB



Date: 13 AUG 2020 10:39:53

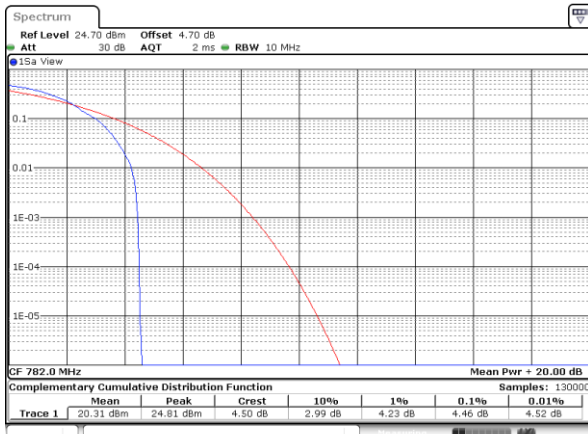
Middle Channel / Full RB



Date: 13 AUG 2020 10:38:01

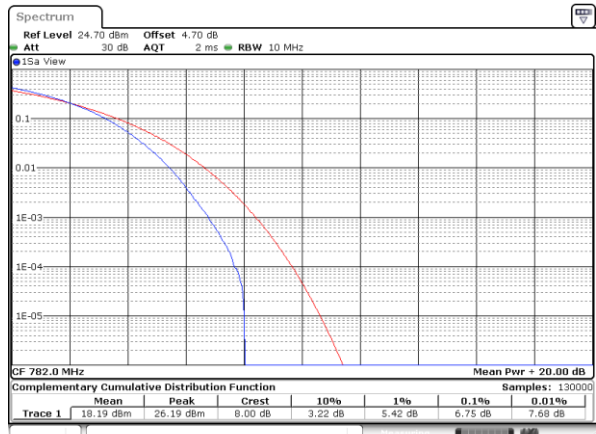
LTE Band 13 / 10MHz / 64QAM

Middle Channel / 1RB



Date: 13 AUG 2020 10:36:39

Middle Channel / Full RB



Date: 13 AUG 2020 10:38:22



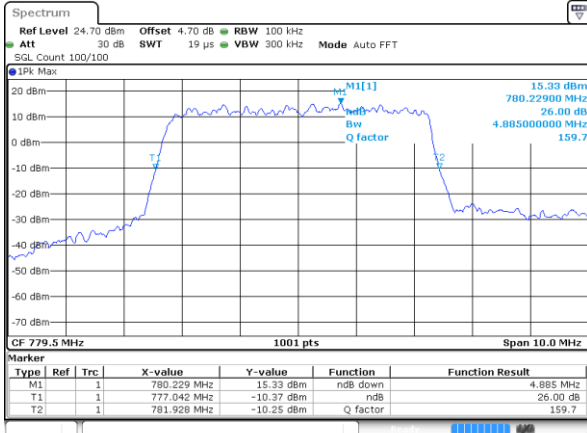
**26dB Bandwidth**

Mode	LTE Band 13 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.89	4.96	-	-	-	-	-	-
Middle CH	-	-	-	-	5.00	4.93	9.81	9.77	-	-	-	-
Highest CH	-	-	-	-	4.92	4.87	-	-	-	-	-	-
Mode	LTE Band 13 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.86	-	-	-	-	-	-	-
Middle CH	-	-	-	-	4.94	-	9.69	-	-	-	-	-
Highest CH	-	-	-	-	4.92	-	-	-	-	-	-	-



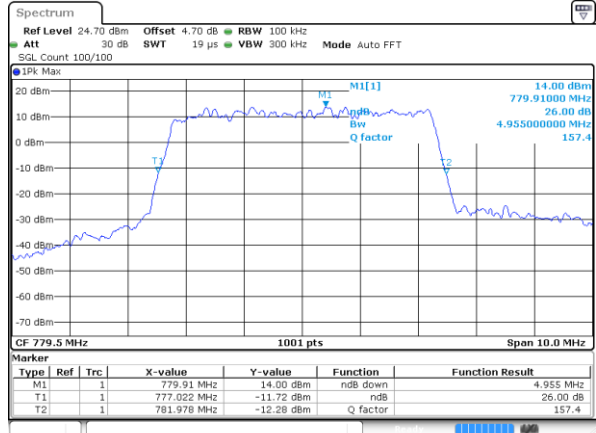
LTE Band 13

Lowest Channel / 5MHz / QPSK



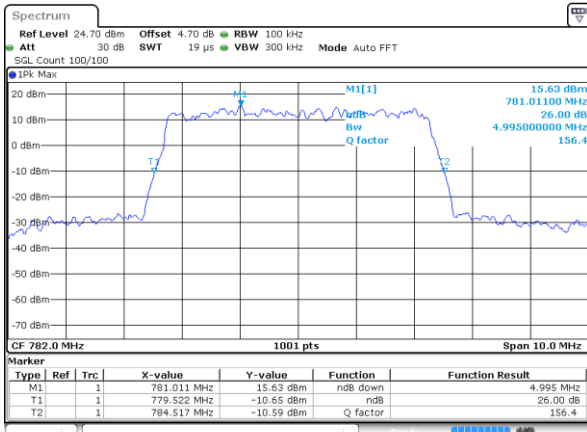
Date: 13 AUG 2020 09:50:07

Lowest Channel / 5MHz / 16QAM



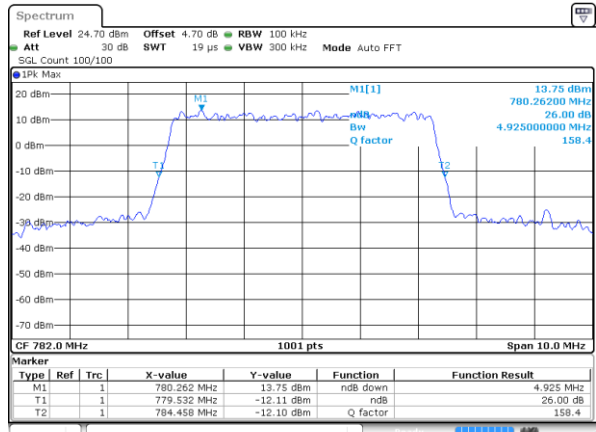
Date: 13 AUG 2020 09:51:39

Middle Channel / 5MHz / QPSK



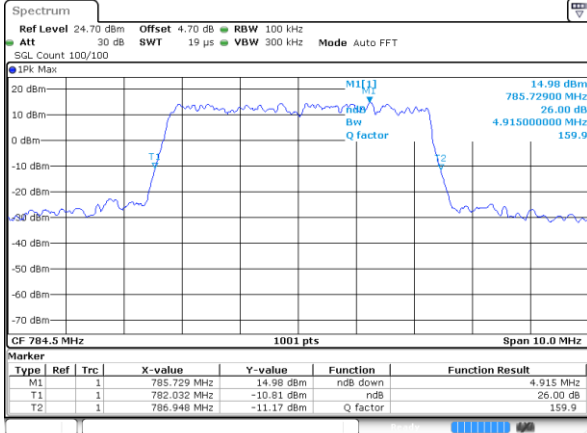
Date: 13 AUG 2020 10:11:17

Middle Channel / 5MHz / 16QAM



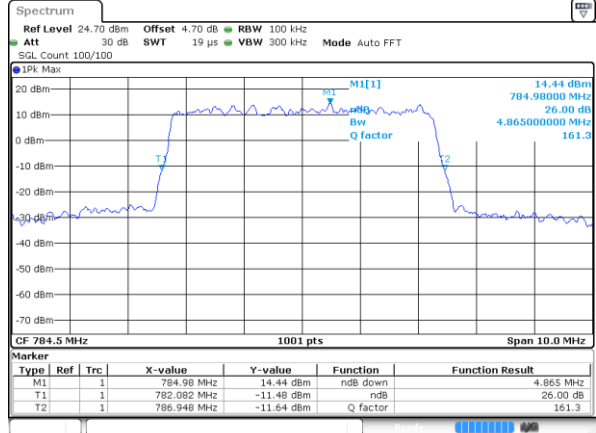
Date: 13 AUG 2020 10:08:51

Highest Channel / 5MHz / QPSK



Date: 13 AUG 2020 10:12:52

Highest Channel / 5MHz / 16QAM



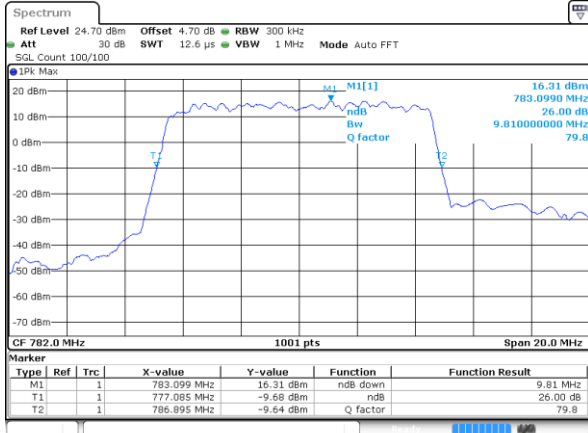
Date: 13 AUG 2020 10:14:24



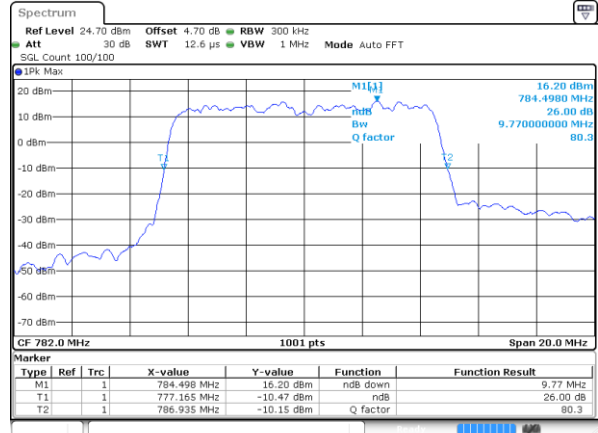
LTE Band 13

Middle Channel / 10MHz / QPSK

Middle Channel / 10MHz / 16QAM



Date: 13 AUG 2020 10:28:38

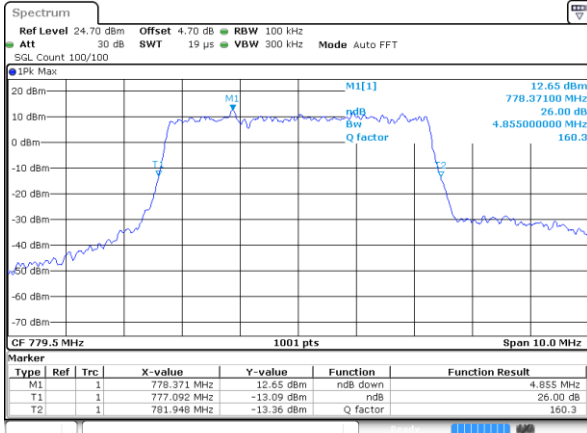


Date: 13 AUG 2020 10:27:51



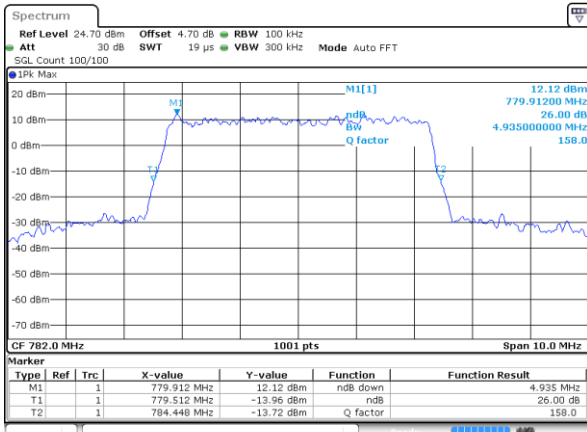
LTE Band 13

Lowest Channel / 5MHz / 64QAM



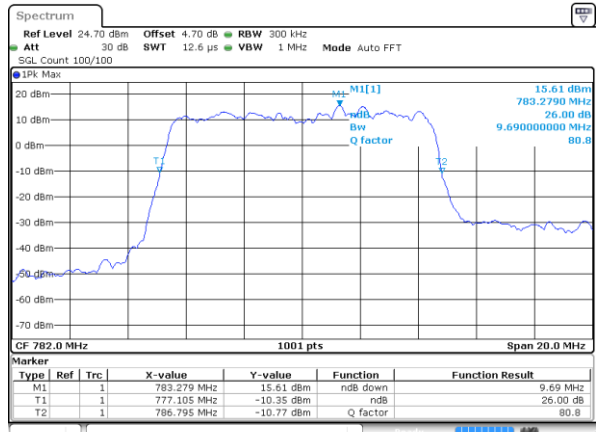
Date: 13 AUG 2020 09:53:16

Middle Channel / 5MHz / 64QAM



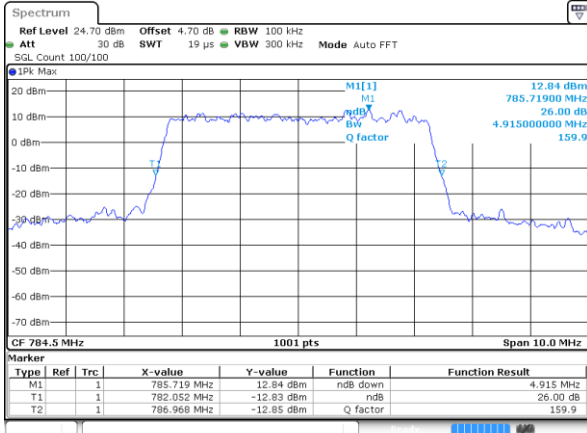
Date: 13 AUG 2020 10:08:22

Middle Channel / 10MHz / 64QAM



Date: 13 AUG 2020 10:27:11

Highest Channel / 5MHz / 64QAM



Date: 13 AUG 2020 10:16:05



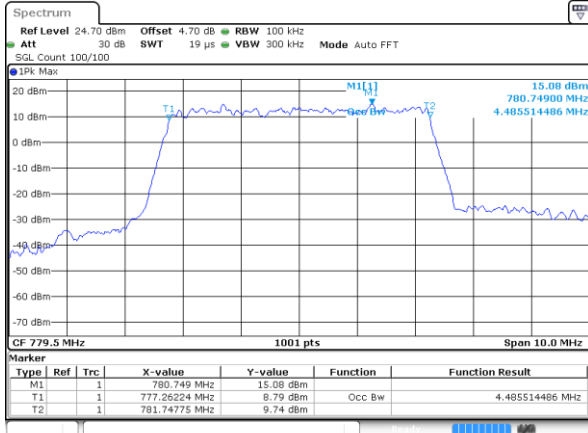
Occupied Bandwidth

Mode	LTE Band 13 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.49	4.49	-	-	-	-	-	-
Middle CH	-	-	-	-	4.49	4.50	8.99	9.05	-	-	-	-
Highest CH	-	-	-	-	4.49	4.48	-	-	-	-	-	-
Mode	LTE Band 13 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.47	-	-	-	-	-	-	-
Middle CH	-	-	-	-	4.52	-	8.99	-	-	-	-	-
Highest CH	-	-	-	-	4.51	-	-	-	-	-	-	-



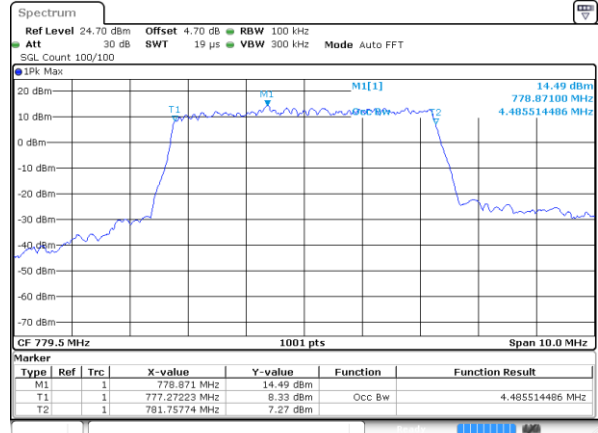
LTE Band 13

Lowest Channel / 5MHz / QPSK



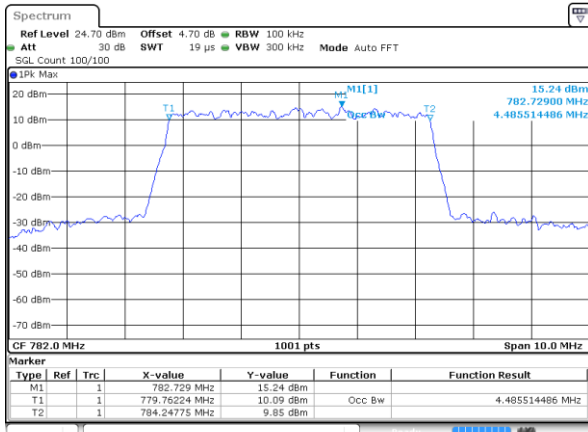
Date: 13 AUG 2020 09:50:00

Lowest Channel / 5MHz / 16QAM



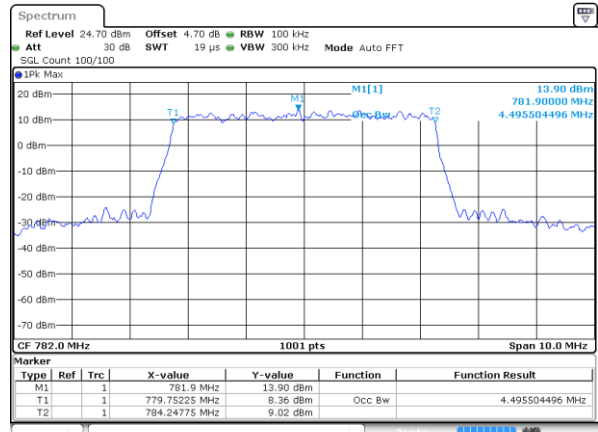
Date: 13 AUG 2020 09:51:32

Middle Channel / 5MHz / QPSK



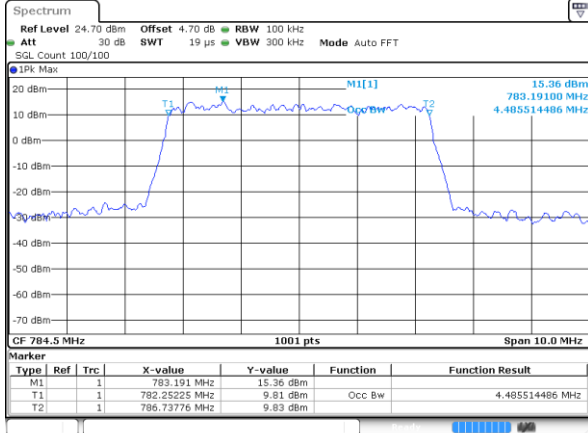
Date: 13 AUG 2020 10:09:47

Middle Channel / 5MHz / 16QAM



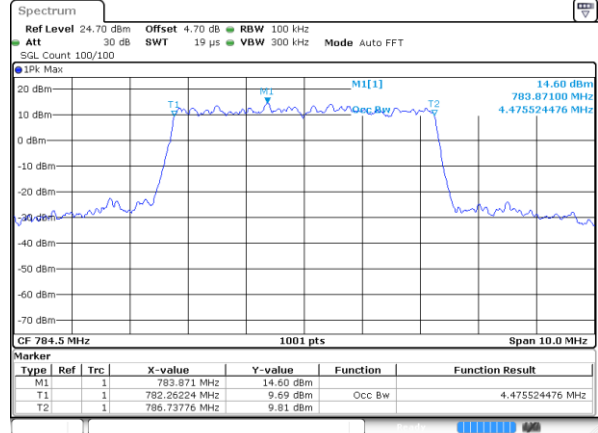
Date: 13 AUG 2020 10:08:44

Highest Channel / 5MHz / QPSK



Date: 13 AUG 2020 10:12:42

Highest Channel / 5MHz / 16QAM



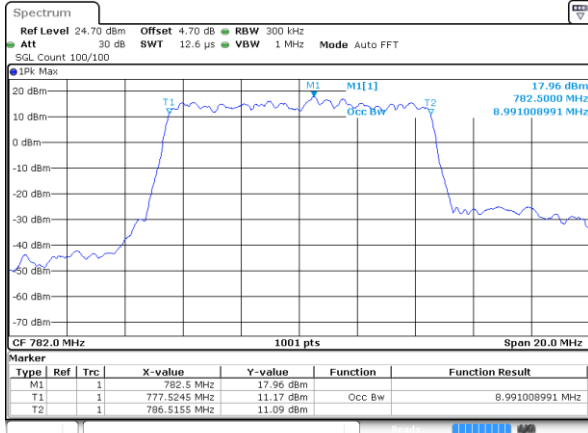
Date: 13 AUG 2020 10:14:13





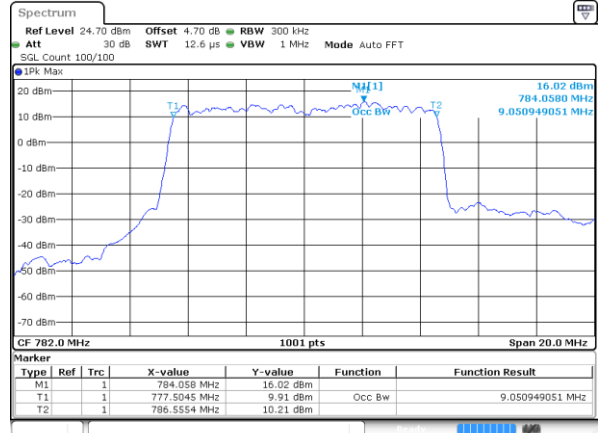
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 13 AUG 2020 10:28:20

Middle Channel / 10MHz / 16QAM

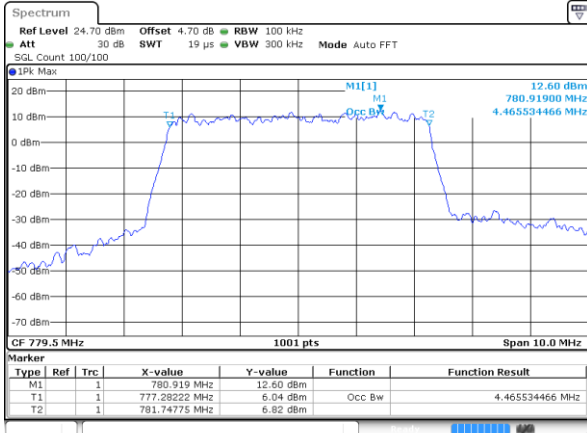


Date: 13 AUG 2020 10:27:43



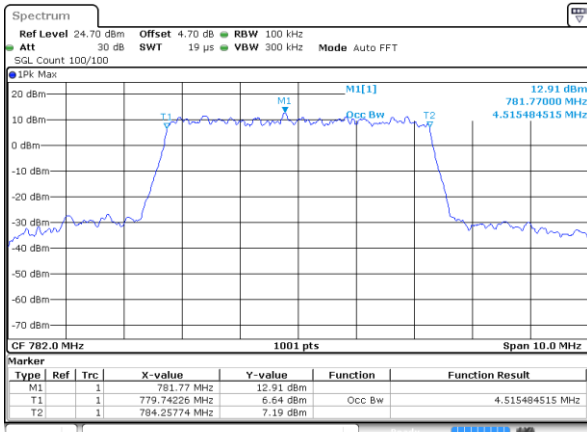
LTE Band 13

Lowest Channel / 5MHz / 64QAM



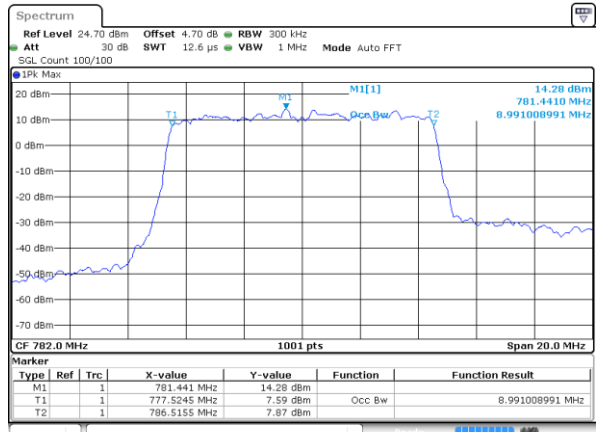
Date: 13 AUG 2020 09:53:09

Middle Channel / 5MHz / 64QAM



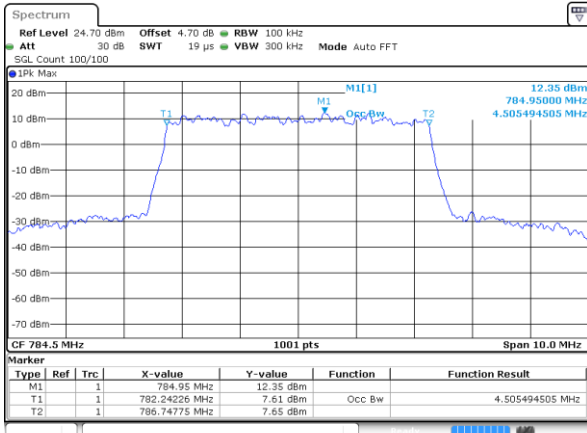
Date: 13 AUG 2020 10:08:15

Middle Channel / 10MHz / 64QAM



Date: 13 AUG 2020 10:26:14

Highest Channel / 5MHz / 64QAM



Date: 13 AUG 2020 10:15:58

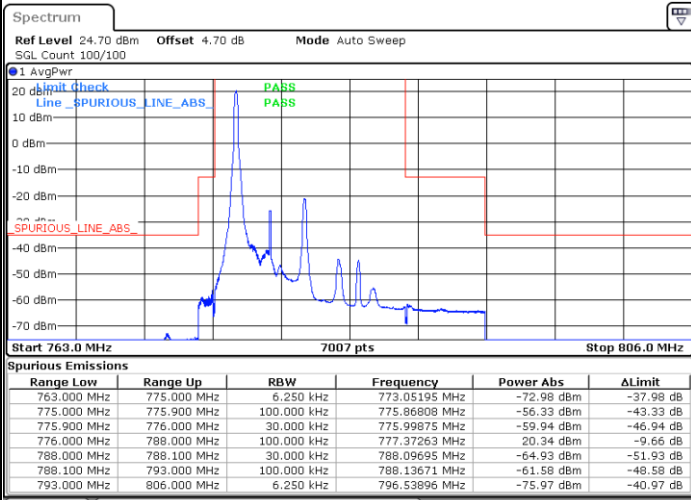


# Conducted Band Edge

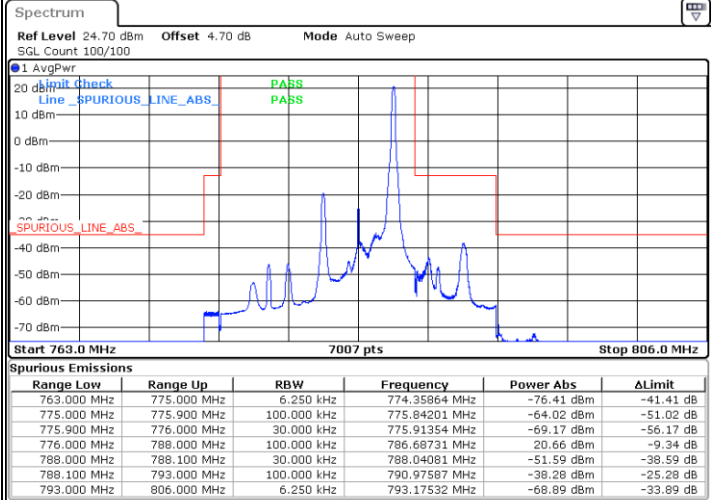
## LTE Band 13 / 5MHz / QPSK

### Lowest Band Edge / 1 RB

### Highest Band Edge / 1 RBMAX



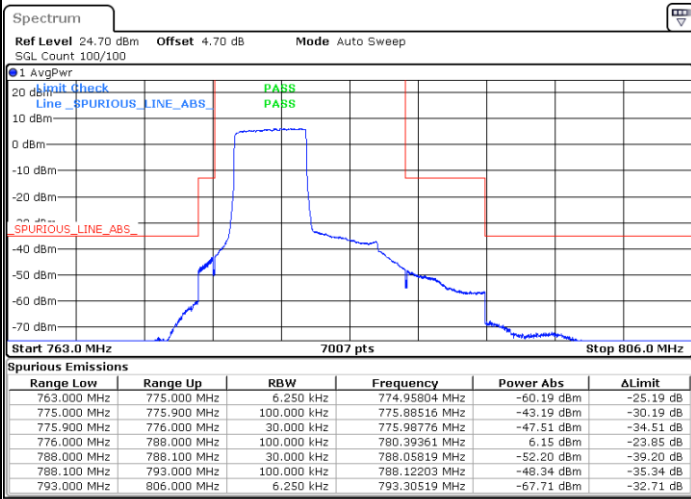
Date: 13.AUG.2020 10:04:49



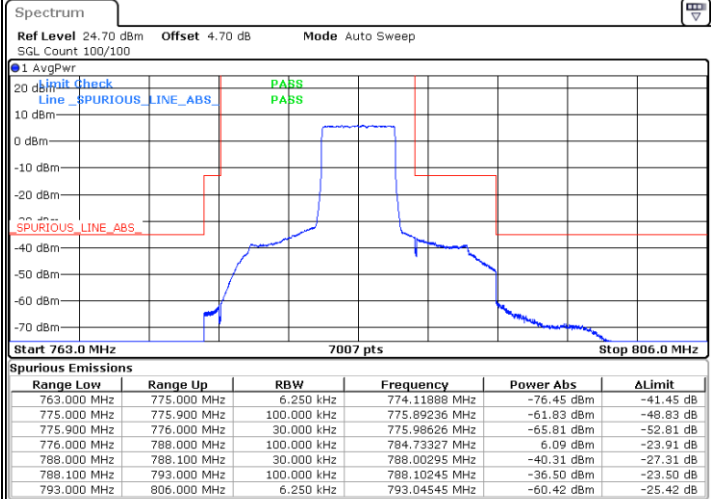
Date: 13.AUG.2020 10:20:39

### Lowest Band Edge / Full RB

### Highest Band Edge / Full RB



Date: 13.AUG.2020 09:51:10



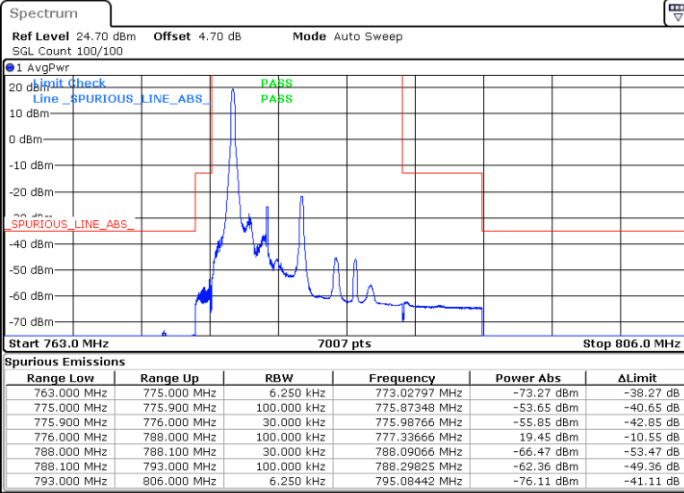
Date: 13.AUG.2020 10:14:00



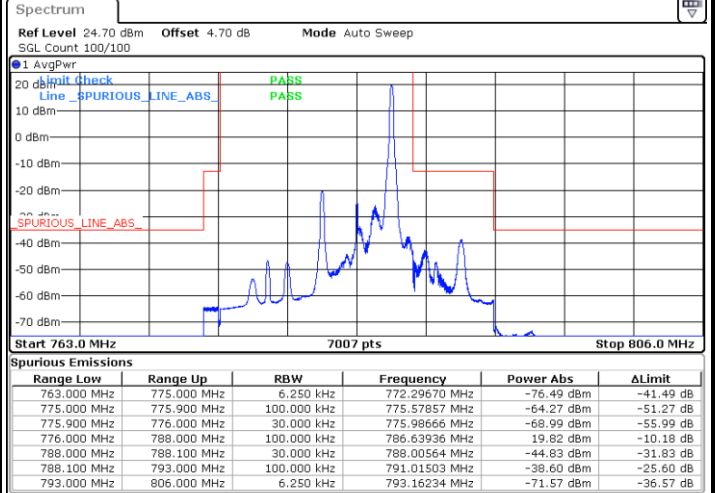
LTE Band 13 / 5MHz / 16QAM

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB



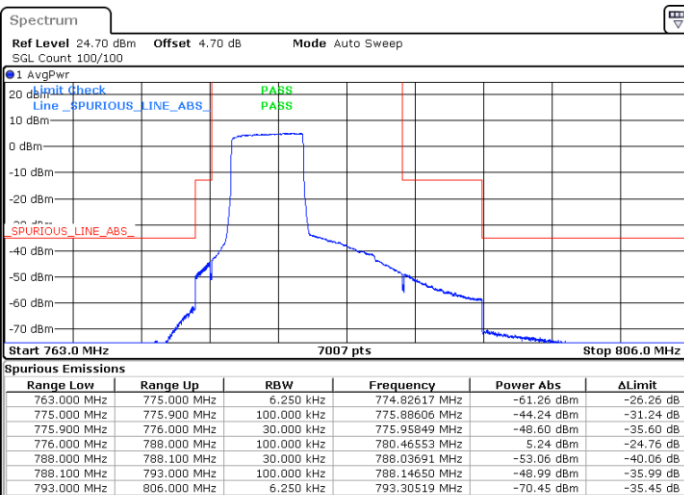
Date: 13 AUG 2020 10:03:36



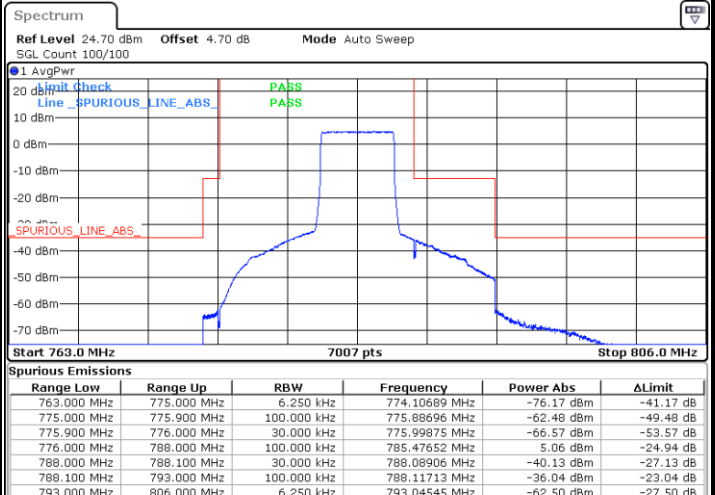
Date: 13 AUG 2020 10:22:58

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 13 AUG 2020 09:52:53



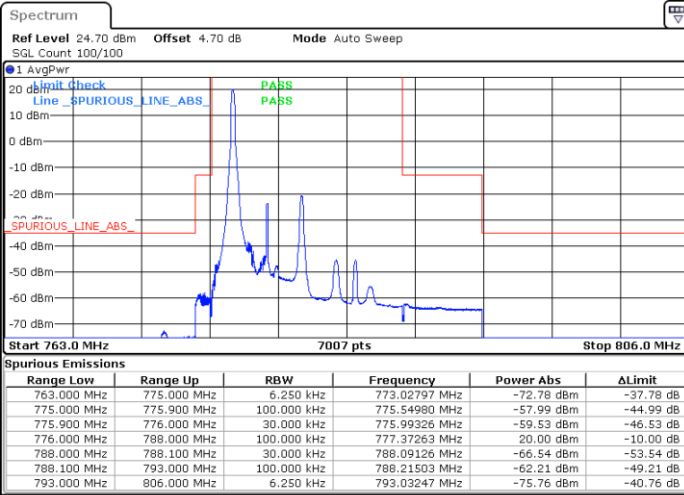
Date: 13 AUG 2020 10:15:40



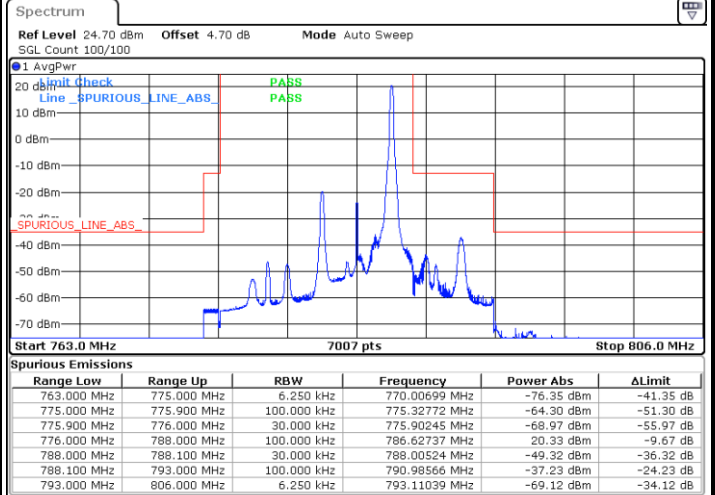
LTE Band 13 / 5MHz / 64QAM

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB



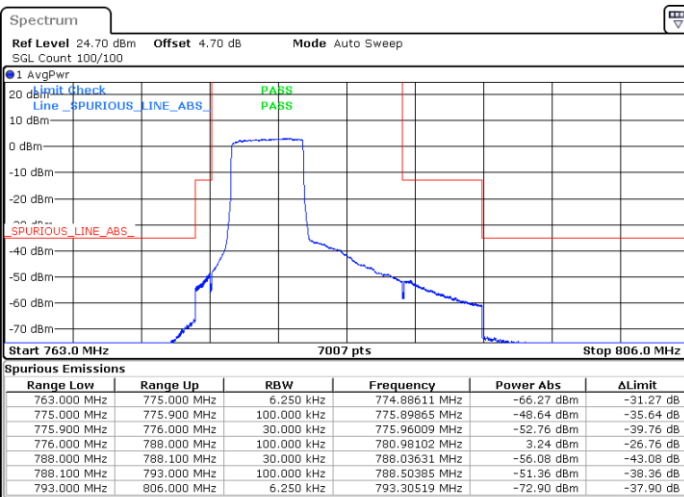
Date: 13 AUG 2020 09:55:39



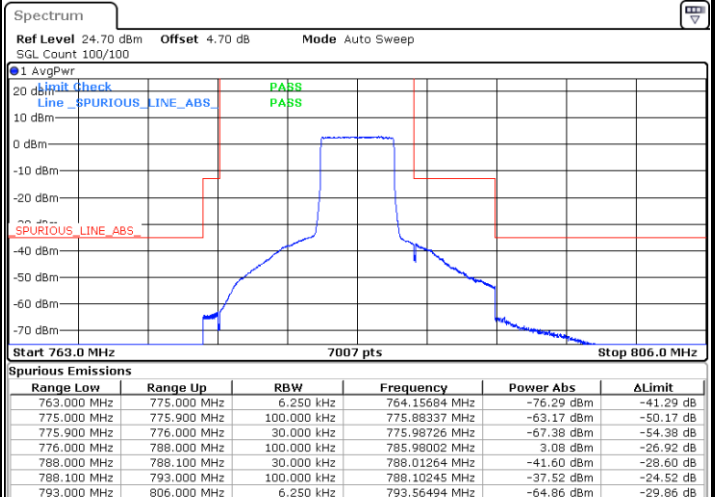
Date: 13 AUG 2020 10:24:45

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 13 AUG 2020 09:54:27



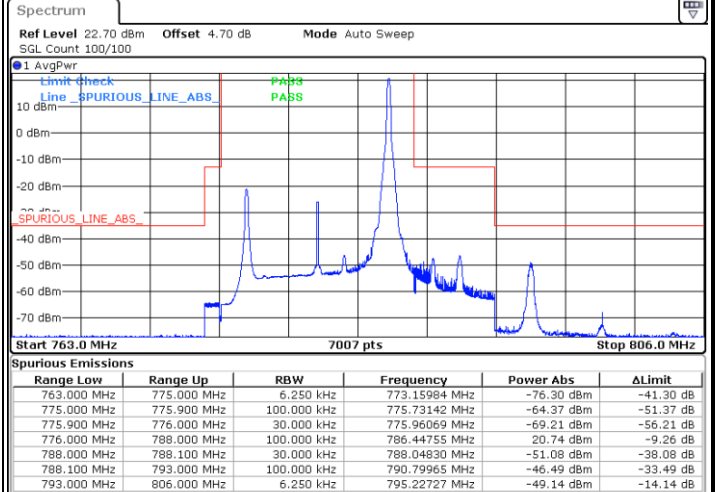
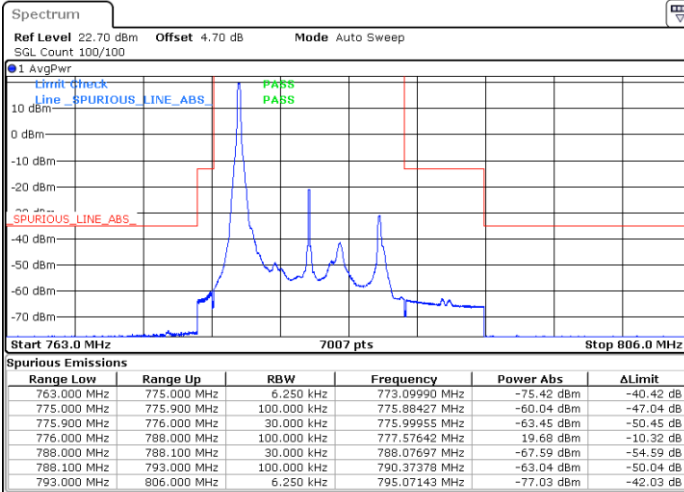
Date: 13 AUG 2020 10:17:07



LTE Band 13 / 10MHz / QPSK

Lowest Band Edge / 1 RB

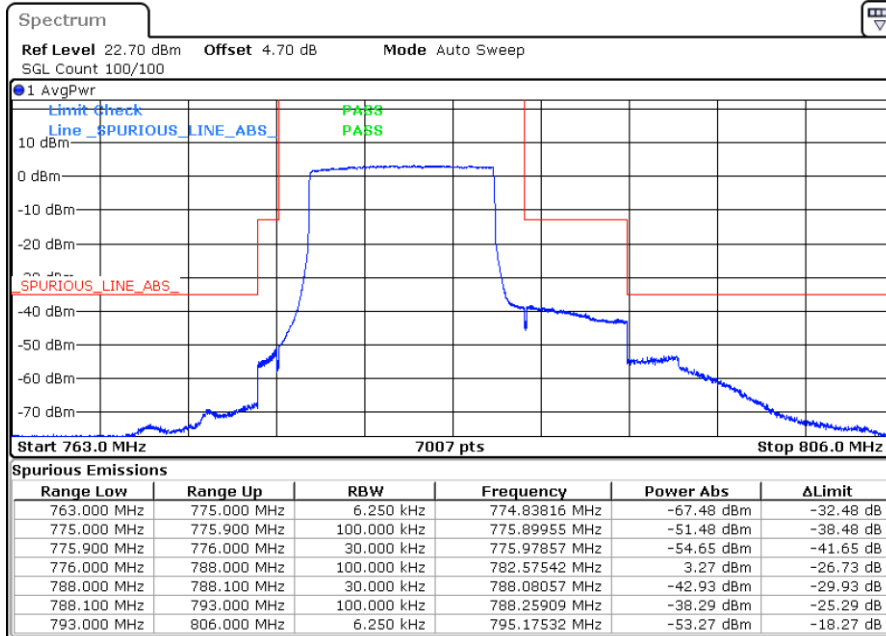
Highest Band Edge / 1 RB



Date: 13.AUG.2020 10:47:02

Date: 13.AUG.2020 10:43:02

Band Edge / Full RB



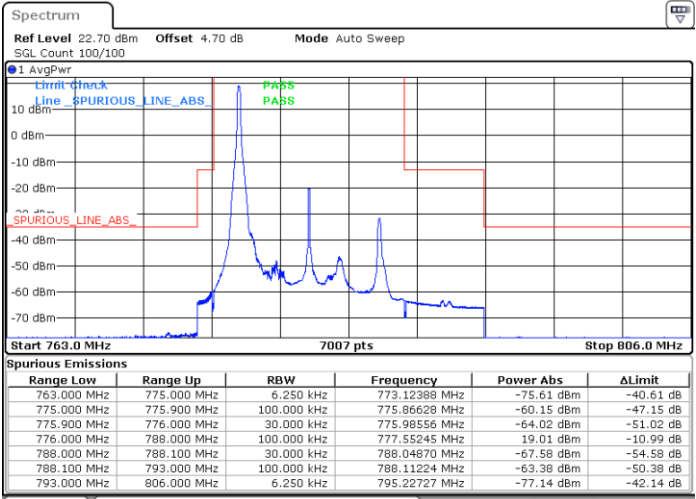
Date: 13.AUG.2020 10:31:12



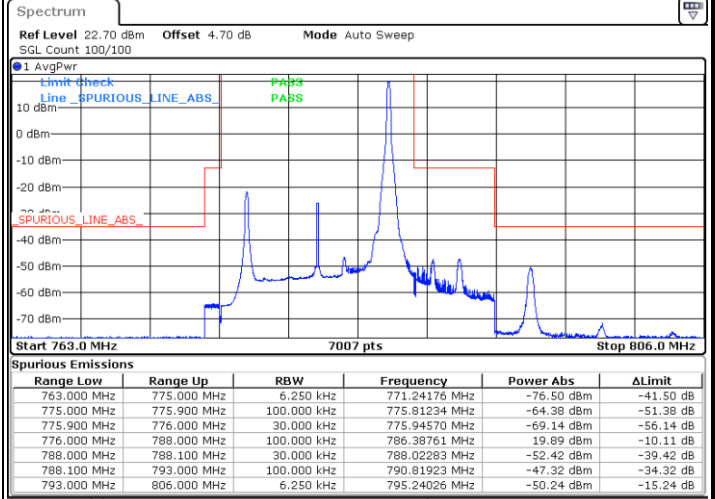
LTE Band 13 / 10MHz / 16QAM

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

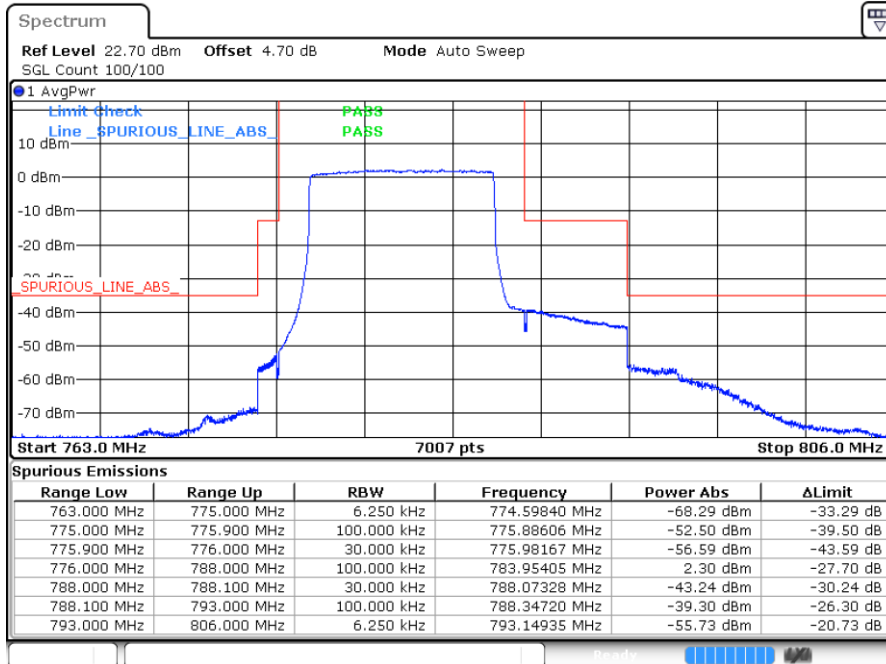


Date: 13.AUG.2020 10:48:02



Date: 13.AUG.2020 10:44:11

Band Edge / Full RB



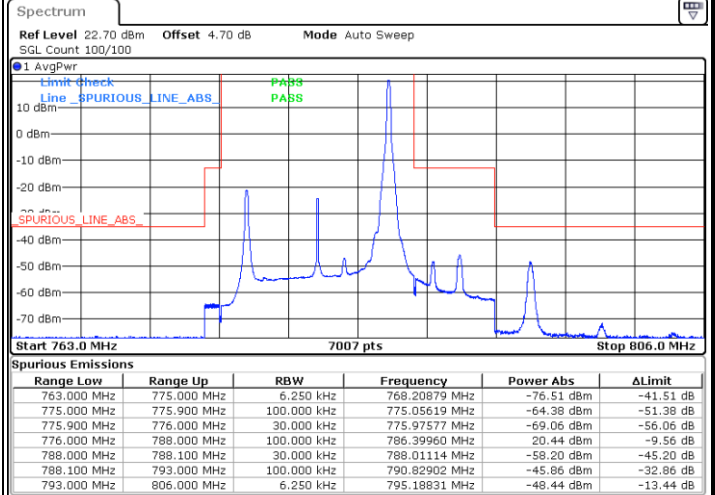
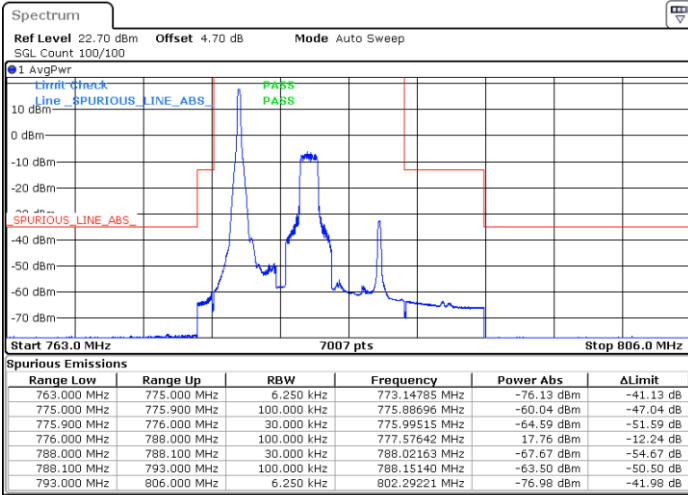
Date: 13.AUG.2020 10:33:24



LTE Band 13 / 10MHz / 64QAM

Lowest Band Edge / 1 RB

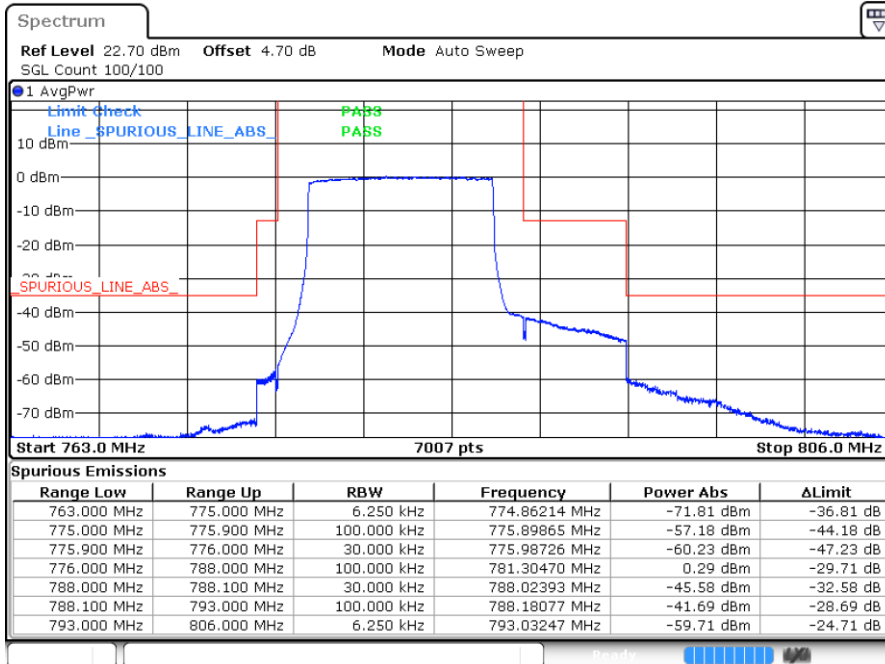
Highest Band Edge / 1 RB



Date: 13.AUG.2020 10:49:02

Date: 13.AUG.2020 10:45:28

Band Edge / Full RB

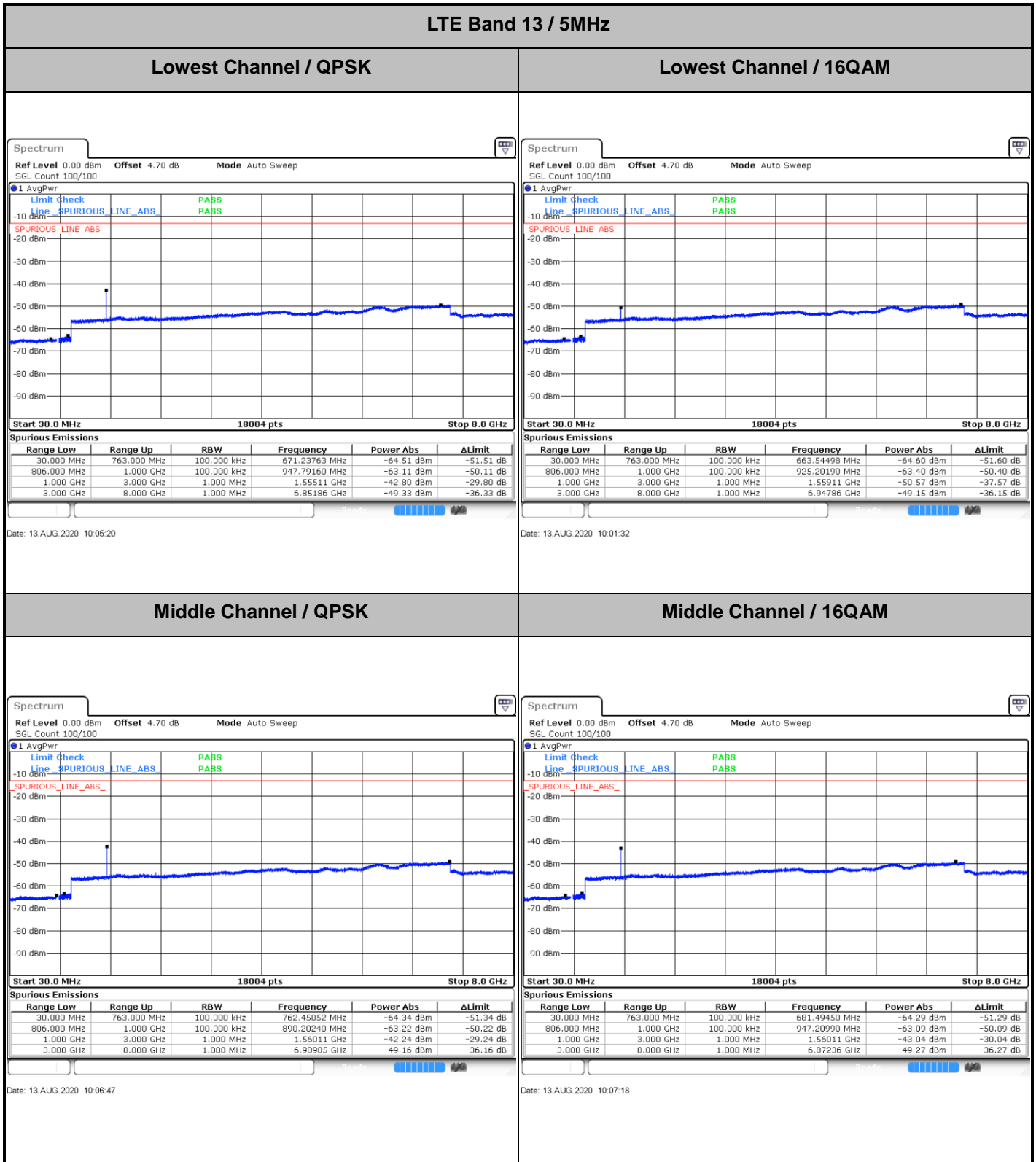


Date: 13.AUG.2020 10:34:36





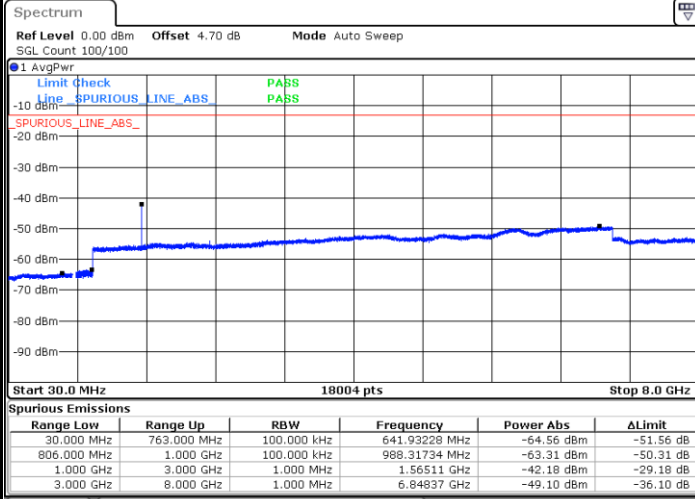
# Conducted Spurious Emission





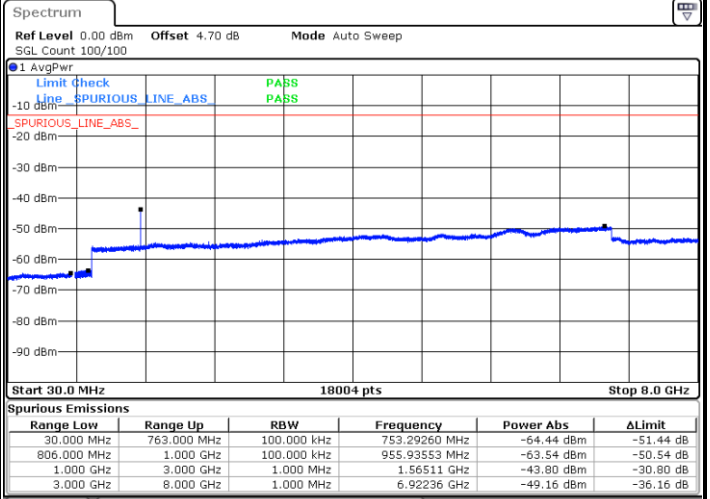
LTE Band 13 / 5MHz

Highest Channel / QPSK



Date: 13 AUG 2020 10:19:12

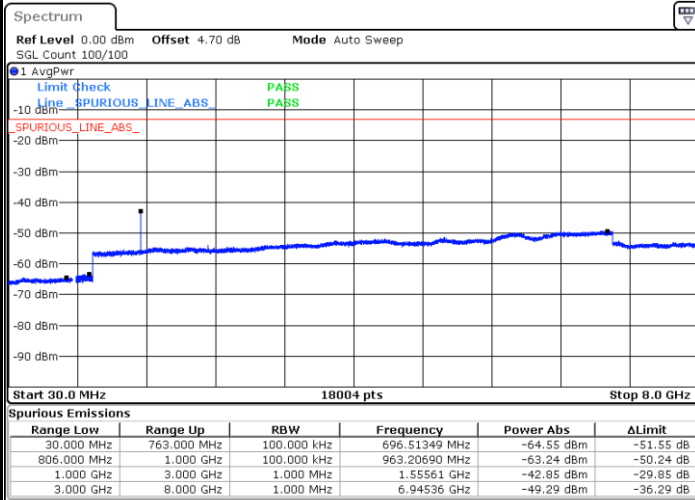
Highest Channel / 16QAM



Date: 13.AUG 2020 10:18:18

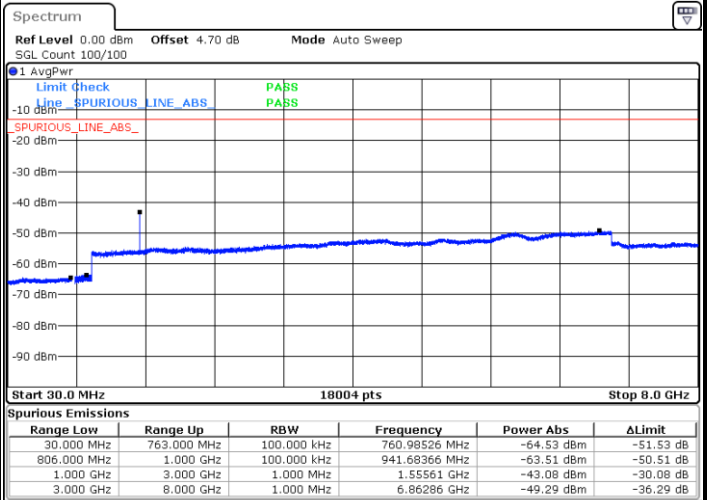
LTE Band 13 / 10MHz

Middle Channel / QPSK



Date: 13 AUG 2020 10:41:06

Middle Channel / 16QAM



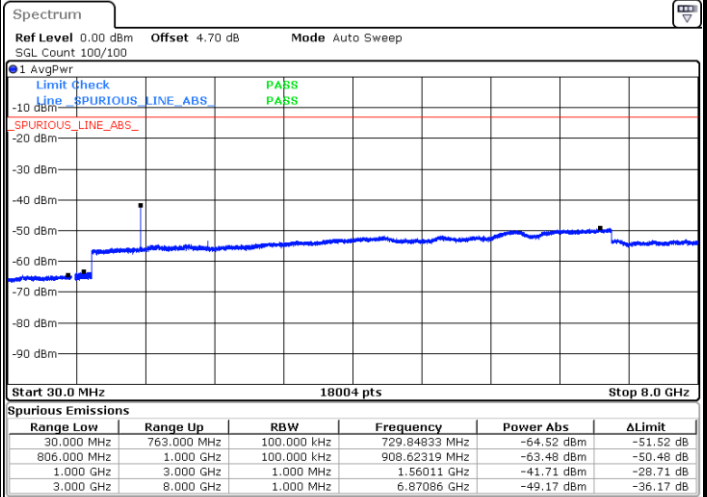
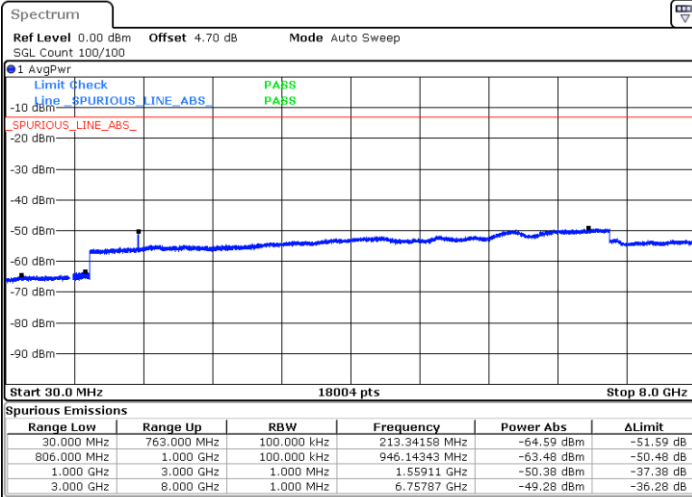
Date: 13.AUG 2020 10:40:32



LTE Band 13 / 5MHz

Lowest Channel / 64QAM

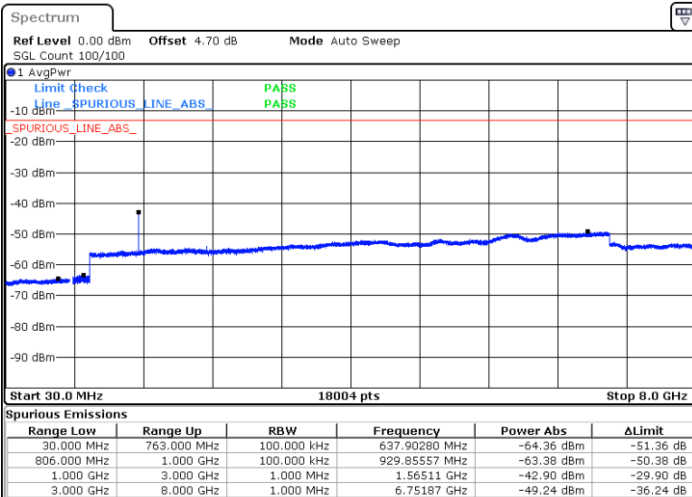
Middle Channel / 64QAM



Date: 13.AUG.2020 09:59:00

Date: 13.AUG.2020 10:07:55

Highest Channel / 64QAM

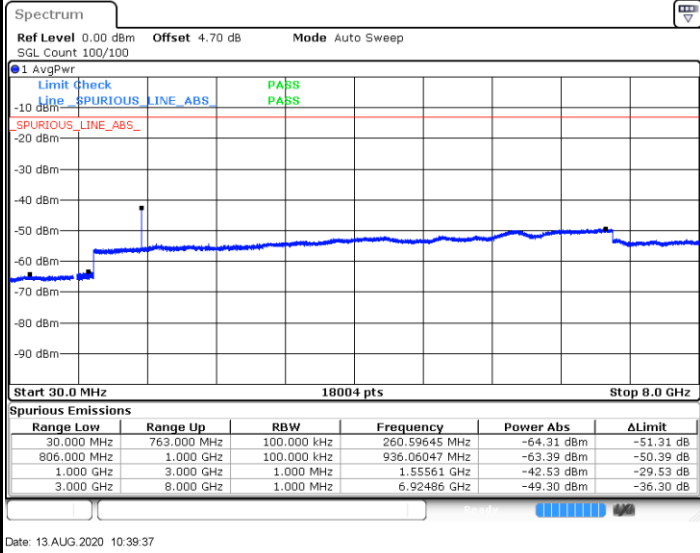


Date: 13.AUG.2020 10:17:47



LTE Band 13 / 10MHz

Middle Channel / 64QAM





### Frequency Stability

Test Conditions		LTE Band 13 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0020	PASS
40	Normal Voltage	0.0013	
30	Normal Voltage	0.0003	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0022	
0	Normal Voltage	0.0007	
-10	Normal Voltage	0.0003	
-20	Normal Voltage	0.0008	
-30	Normal Voltage	0.0013	
20	Maximum Voltage	0.0001	
20	Normal Voltage	0.0020	
20	Battery End Point	0.0014	

**Note:**

1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.6 V. ; Maximum Voltage =4.4 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



# LTE Band 38

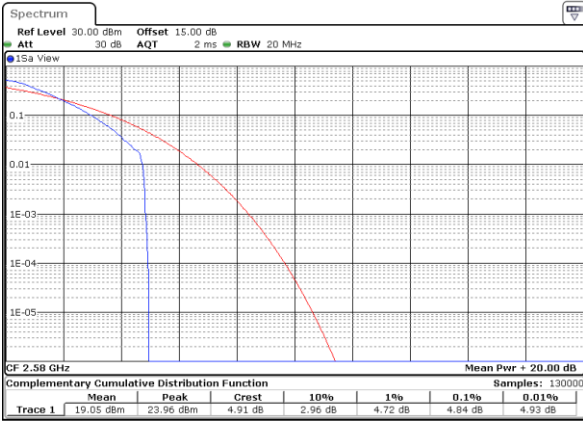
## Peak-to-Average Ratio

Mode	LTE Band 38 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	4.84	5.22	5.16	6.17	PASS
Middle CH	4.52	5.94	5.19	5.86	
Highest CH	5.04	5.28	5.77	6.46	
Mode	LTE Band 38 / 20MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	6.26	5.88	-	-	PASS
Middle CH	5.80	5.77	-	-	
Highest CH	5.36	6.12	-	-	



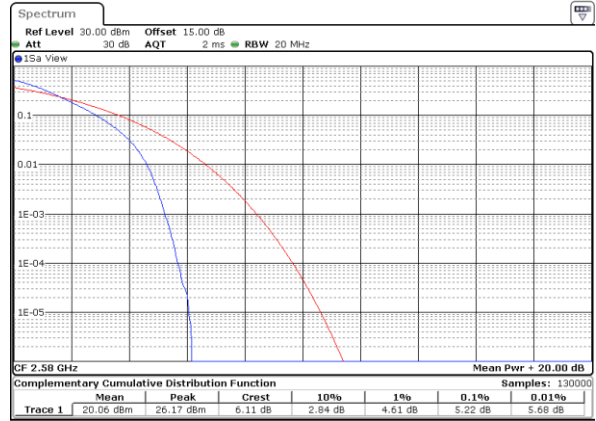
LTE Band 38 / 20MHz / QPSK

Lowest Channel / 1RB



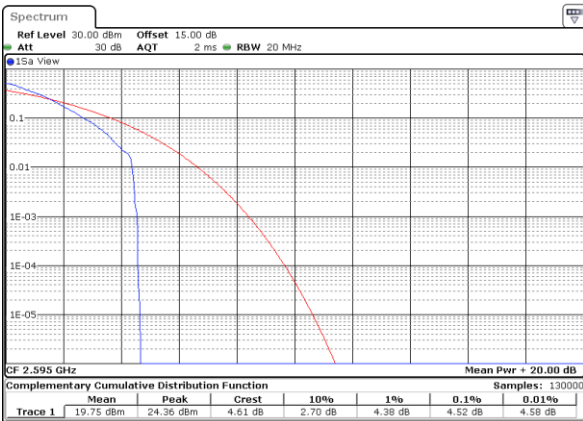
Date: 18\_AUG.2020 23:33:53

Lowest Channel / Full RB



Date: 18\_AUG.2020 23:34:04

Middle Channel / 1RB



Date: 18\_AUG.2020 23:34:22

Middle Channel / Full RB



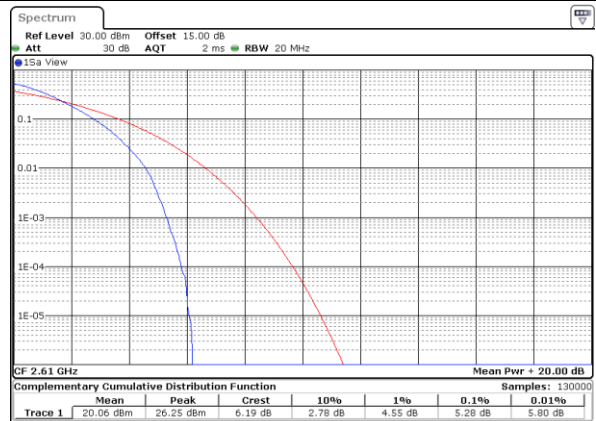
Date: 18\_AUG.2020 23:34:38

Highest Channel / 1RB



Date: 18\_AUG.2020 23:34:49

Highest Channel / Full RB

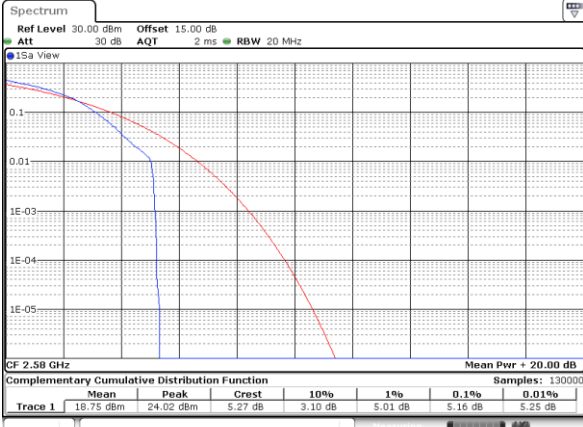


Date: 18\_AUG.2020 23:35:10



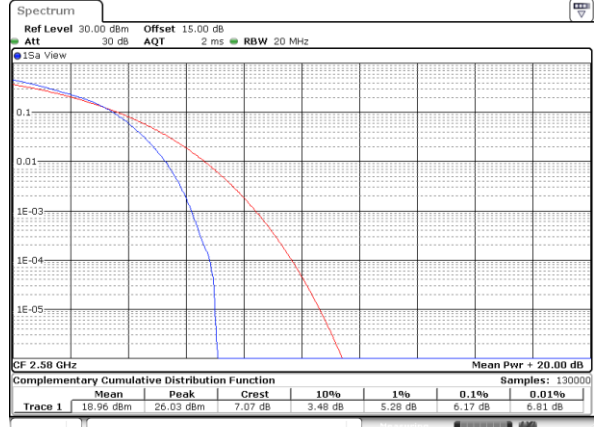
LTE Band 38 / 20MHz / 16QAM

Lowest Channel / 1RB



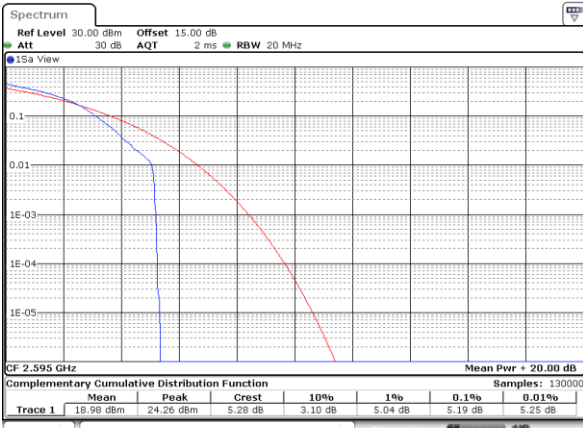
Date: 18\_AUG.2020 23:31:43

Lowest Channel / Full RB



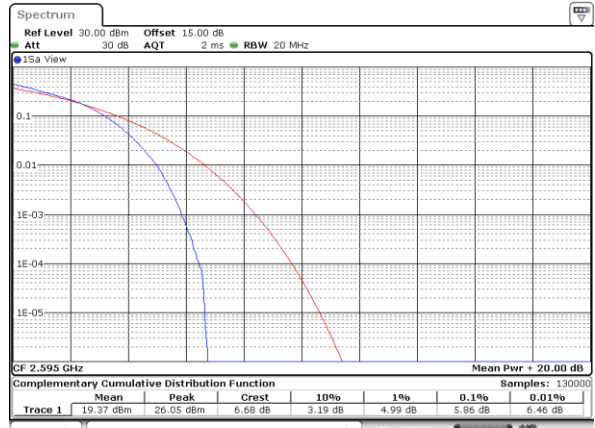
Date: 18\_AUG.2020 23:32:16

Middle Channel / 1RB



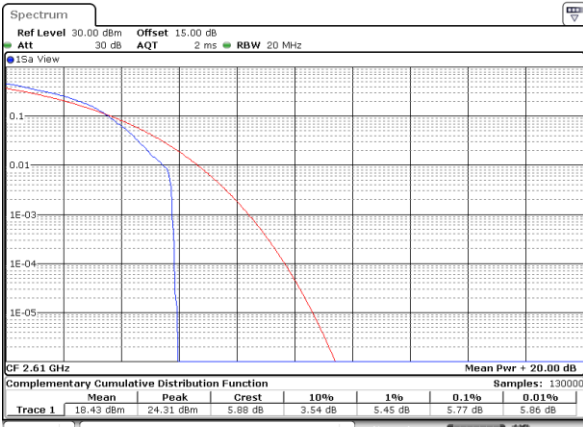
Date: 18\_AUG.2020 23:32:53

Middle Channel / Full RB



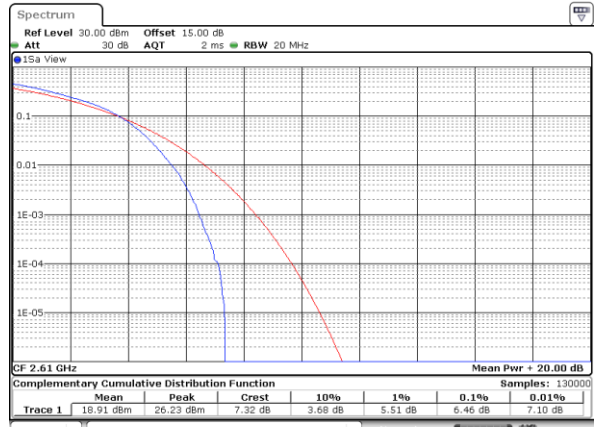
Date: 18\_AUG.2020 23:33:04

Highest Channel / 1RB



Date: 18\_AUG.2020 23:33:20

Highest Channel / Full RB



Date: 18\_AUG.2020 23:33:37